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09-AFC-7
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July 2, 2010

Alan Solomon
Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

RE: **Palen Solar Power Project, Docket No. 09-AFC-7**
Palen Solar Power Project (PSPP) Supplementary Information:
Reconfigured Alternative 2 and Reconfigured Alternative 3
Technical Area: Biological Resources

Dear Mr. Solomon:

Attached please find the following: "Palen Solar Power Project (PSPP) Supplementary Information: Reconfigured Alternative 2 and Reconfigured Alternative 3."

The purpose of this document and the supporting documentation (Palen Solar Power Project Biological Resources Data Package) is to address two newly devised alternatives for the PSPP or Project. These two alternatives have been proposed in response to concerns expressed by regulatory agencies over potential impacts of the PSPP as originally proposed.

If you have any questions on this submittal, please feel free to contact me directly.

Sincerely,

Alice Harron
Senior Director, Development

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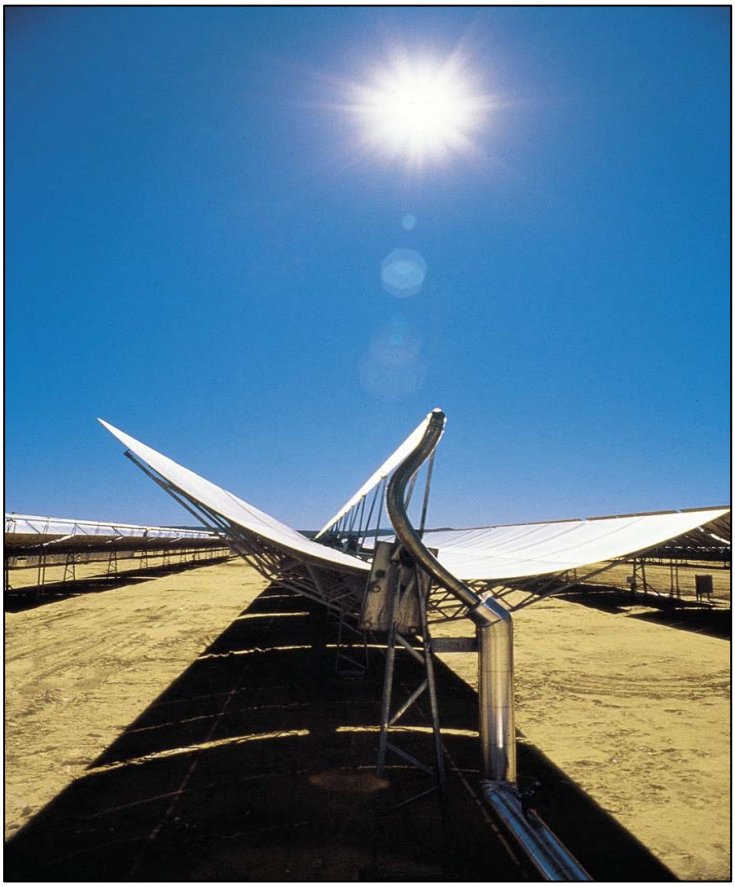
June 2010



Palen Solar Power Project (PSPP)
Supplementary Information:
Reconfigured Alternative 2 and Reconfigured Alternative 3

(Docket No. 09-AFC-7)

Submitted to California Energy Commission
Submitted June 2010

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1.0 Executive Summary

The purpose of this document is to address two newly devised alternatives for the Palen Solar Power Project (PSPP or Project). These two alternatives have been proposed in response to concerns expressed by regulatory agencies over potential impacts of the PSPP as originally proposed. As originally proposed, eastern areas of the Project site extend into sand transport corridors and the habitat of the special-status Mojave Fringe-toed Lizard (MFTL). As presented in the March 2010 Staff Assessment/Draft Environmental Impact Statement (SA/DEIS) and in California Energy Commission (CEC) Workshops that are part of the Project licensing process, Project impacts to the sand transport Zone II corridor[1] and the sand transport's related, alleged impact to the MFTL are considered by regulatory agencies to represent a significant adverse impact that cannot be mitigated. Although Palen Solar I, LLC (PSI), the Applicant, disagrees with the characterization of these impacts as significant and unmitigable, and believes that the identified impacts can be successfully mitigated to below a level of significance, PSI has decided to reconfigure the layout of Project facilities to address these concerns.

PSI has devised two alternate Project reconfigurations, referred to in this document as Reconfigured Alternative 2 and Reconfigured Alternative 3. Reconfigured Alternative 2 includes two parcels of privately owned land that PSI does not currently control in addition to land owned by the Federal government and managed by the Bureau of Land Management (BLM); Reconfigured Alternative 3 is entirely on BLM-managed public land. PSI plans to carry both alternatives forward through the Project licensing/permitting process because of current uncertainties concerning the future availability for Project use of the private land. For tracking purposes only, this analysis will continue to refer to the original configuration as the proposed project even though PSI now proposes Reconfigured Alternatives 2 and 3 as its preferred project.

The purpose of this document is: 1) describe the two new Project alternatives (Section 2.0, Project Description), and 2) evaluate the environmental impacts of both of the new alternatives (Section 3.0, Environmental Information) in the full range of environmental resource areas included in the original Application for Certification (AFC) for the PSPP that was submitted to the CEC in August 2009. The differences between the Reconfigured Alternatives and the proposed Project are modest. There are not any changes in technology, output/number of solar plants, construction or operational processes or procedures, Project construction schedule or construction/operations phase manpower loading, or other primary features.

There are no changes to Project linear facilities or to the proposed Southern California Edison (SCE) Red Bluff Substation where the Project will interconnect with the SCE system. Most of the Project's solar facilities themselves will not be modified in terms of location and layout. The changes represent merely the reconfigurations needed to greatly reduce the amount of the Project disturbance area that extends into Zone II of the sand transport corridor in the eastern portions of the site. These changes require placing some Project facilities in locations not previously planned for disturbance (use) to the south and southeast of the previously proposed Project footprint. Figures 2-1, 2-2, and 2-3 (see below; Section 2.0, Project Description) show the location/layout of the proposed Project, Reconfigured Alternative 2, and Reconfigured

[1] See Figure 9 in Geomorphic Assessment of Palen Solar project site by Andrew Collison, PWA; included as Appendix A (Soil and Water Report), of the CEC/BLM Staff Assessment/ Draft Environmental Impact Statement for the Palen Solar Power Project published in March 2010; also see ,Plate 2 in Preliminary Geomorphic Aeolian and Ancient Shoreline by Miles Kenney, PH.D., PG; submitted by the Applicant as part of Supplemental Responses to CEC Data Requests to CEC Data Requests, dated February 12, 2010. .

Alternative 3, respectively. Please note that temporary construction facilities that were identified in the Applicant's submittal of May 4, 2010 (Applicant comments on the SA/DEIS) would be required for Reconfigured Alternatives 2 and 3, as well as for the proposed Project.

Because the Project changes are not extensive, expected Project impacts (and associated mitigation requirements) in many disciplines are the same or very similar to the impacts/mitigation previously presented in PSPP submittals, including, but not limited to the AFC filed on August 24, 2009), additional requested filings to obtain Data Adequacy, responses to Data Requests, and comments filed on May 4, 2010 to the SA/DEIS. For this reason, the focus of the evaluations presented in this document is to succinctly highlight any important differences between impacts/mitigation associated with Reconfigured Alternatives 2 and 3. Impact evaluations for the Project as previously proposed are not repeated here. The sole focus is to identify differences in impacts and mitigation between Alternatives 2 and 3 and the Project as previously proposed and analyzed.

2.0 PROJECT DESCRIPTION

2.1 Reconfigured Alternative 2

The layout of the proposed Project as described in the AFC is shown on Figure 2-1. As shown on Figure 2-2, the site plan for Reconfigured Alternative 2 has been conceptually designed to minimize the PSPP plant site footprint in Zone II of the sand transport corridor system. The Reconfigured Alternative 2 site plan generally modifies only the eastern half of the plant site for the proposed Project. As shown on Figure 2-2, the western solar field (Field 2) has remained unchanged from the proposed Project. The Reconfigured Alternative 2 solar field arrangement in the eastern field (Field 1) has been geometrically adjusted to a non-rectangular arrangement that is less than optimal from an operational perspective. However, the proposed arrangement has been evaluated and adjusted to minimize the resultant operational inefficiency. The Reconfigured Alternative 2 site plan eliminates eight solar loops, for a new total of 280 loops, and relocates 140 solar loops from the northeast portion of the proposed Project site plan to an area further south that was not previously used as part of the Project design. This new area south of the proposed Project footprint is a mixture of public land managed by BLM and two privately owned parcels not currently controlled by Applicant. The Reconfigured Alternative 2 site plan assumes that Applicant can acquire the 240 acres of private land as part of this redesign effort. This alternative also would require adjustment of the boundaries of the BLM Right-of-Way (ROW) since the alternative includes land not currently included in the proposed ROW. The overall disturbance area for Reconfigured Alternative 2 would be 4,365.3 acres

The Reconfigured Alternative 2 site plan consists of two (2) solar power plants, each with associated components of solar fields, power blocks, and bioremediation areas, as well as a switchyard and transmission lines. The Shared Facilities area includes, a warehouse/laydown yard, and an administrative office area, and a parking lot. A single circuit 230 kV transmission line originating at each power block terminates at the Central Switchyard. A single circuit 230 kV gen-tie line will connect from the Central Switchyard to SCE's proposed Red Bluff Substation. The administrative office area for the Alternative 2 site has not changed nor has the access to the overall PSPP site. The location of the warehouse/laydown yard has shifted approximately 3,000 feet to the west, but the size of the warehouse and the functional use of the space is the same as the proposed Project.

The Project's western solar field (Field 2) consists of 288 solar loops and one 250 MW power block, along with associated internal infrastructure, drainage channels, and roadway network. This solar field is entirely unchanged from the proposed Project layout. The eastern solar field, (Field 1), has been fully revised from the proposed Project and now consists of 280 solar loops, one 250 MW power block along with internal infrastructure, new drainage channels, and new maintenance roadway locations. The technology and equipment of the solar field s (solar mirrors, HTF system, and associated infrastructure), are unchanged from the proposed Project. There are no changes to the power block equipment layout associated with Field 1, but the entire power block has been shifted south by approximately 2,700 feet. The evaporation ponds for Field 1 of Reconfigured Alternative 2 are unchanged in terms of function and size, but, they have also been relocated slightly south and east of their location under the proposed Project. The Field 1 bioremediation area is also unchanged in terms of function and size, but it has been relocated to the mid-southwesterly portion of the solar field.

Other Project elements that are different for Reconfigured Alternative 2 and the proposed Project are elements whose configurations are based on overall site geometry, such as internal site utilities and maintenance roads, specifics of site grading and drainage design and the boundaries of the overall disturbance area.

Although the layout of facilities is different for Reconfigured Alternative 2 than for the proposed Project, the total area occupied by solar facilities is essentially unchanged. The layout of the reconfigured alternative would likely result in a very small increase in the total length of maintenance roads and some internal utility lines, and Project fencing. However, it should be emphasized that these changes are very minor.

The grading and drainage detailed design for Reconfigured Alternative 2 will be slightly different from the proposed Project, but the drainage concept and the grading approach will be same. The drainage plan for Reconfigured Alternative 2 site includes the West Channel and the Central Channel essentially unchanged from the proposed Project. The West Channel is completely unaffected by this alternative. The Central Channel is approximately 800 feet longer than in the proposed Project Plan, but the width and depth of the channel will remain unchanged. The flow in the channel is also anticipated to be very similar to the proposed Project Proposed configuration.

The East Channel will be approximately 7,000 feet longer than for the proposed Project, but the flows from the upstream areas to the downstream areas will be maintained for peak flows and volumes just as they were in the proposed Project. Under Reconfigured Alternative 2, one additional drainage channel has been added on the southeast side of the PSPP site to intercept off-site drainage flows. This channel will be engineered in the same fashion as the other channels such that the upstream flow is directed to the same general downstream discharge area as the pre-development flow. Also, one additional on-site peripheral channel has been added in the mid-northeastern portion of the Reconfigured Alternative 2 site plan to direct on-site flows to the appropriate downstream area. These changes should not require new conditions of certification beyond those proposed in the Staff Assessment/Draft Environmental Impact Statement (SA/DEIS).

The site grading approach for Reconfigured Alternative 2 will be essentially the same as the approach of the proposed Project. The solar fields will be graded to have small drainage swales that collect water between the solar arrays, which in turn will flow to collector channels and finally to the peripheral channels. The solar fields will be graded and terraced very similarly to the proposed Project and the site will grade generally downhill from southwest to northeast. Since the existing ground slope in the Reconfigured Alternative 2 area is very similar to with the slopes in the area encompassed by the propose Project, the volume of earthwork and associated construction water use will be very similar to the proposed Project.

2.2 Reconfigured Alternative 3

As is the case for Reconfigured Alternative 2, the site plan for Reconfigured Alternative 3 has been conceptually designed to minimize the footprint of the PSPP site (see Figure 2-3) in Zone II of the sand transport corridor. The Alternative 3 site plan generally modifies only the eastern half of the site plan for the proposed Project. The western solar field (Field 2) is unchanged from the proposed Project layout. The Reconfigured Alternative 3 solar field arrangement in the eastern field (Field 1) has been geometrically adjusted into a non-rectangular arrangement, which is less than optimal from an operational perspective, but the proposed arrangement has been evaluated and adjusted to minimize the resultant operational inefficiency. The Alternative 3 site plan has relocated 120 solar loops from the northeast portion of the proposed Project to an area south of the proposed configuration that was previously not used for the Project design. This new area south of the proposed Project footprint is public land managed by BLM. However, this alternative would require adjustment of the boundaries of the BLM Right-of-Way (ROW) because it includes land not currently included in the proposed ROW.

The Reconfigured Alternative 3 site plan consists of two solar plants with associated equipment (solar fields, power blocks, bioremediation areas, as well as a switchyard and transmission lines, and other ancillary facilities such as a warehouse/laydown yard, administrative office area, etc.). The Central Switchyard location is unchanged from the proposed Project. . The administrative office area for the Reconfigured Alternative 3 site layout has not changed, nor has the access to the overall PSPP site. The location of the

warehouse/laydown yard has shifted approximately 3,000 feet to the west, but the size of the warehouse and the functional use of the space is the same as the proposed Project.

The western solar field (Field 2) consists of 288 solar loops and one 250 MW power block along with associated internal infrastructure, drainage channels, and roadway network. This solar field is entirely unchanged from the proposed Project. The eastern solar field, (Field 1), has been partially reconfigured from the proposed Project and consists of 288 solar loops, and one 250 MW power block along with internal infrastructure, new drainage channels, and new maintenance roadway locations. The technology and equipment of the solar field s (solar mirrors, HTF system, and associated infrastructure), are unchanged from the proposed Project. There are no changes to the power block equipment layout associated with Field 1 but the entire power block has been shifted south by approximately 2,700 feet. The evaporation ponds for Field 1 of Reconfigured Alternative 3) are unchanged in terms of function and size, but, they have also been relocated slightly south and east of their location under the proposed Project. The Field 1 bioremediation area is also unchanged in terms of function and size, but it has been relocated to the mid-southwesterly portion of the solar field.

Other Project elements that are different for Reconfigured Alternative 3 and the proposed Project are elements whose configurations are based on overall site geometry, such as internal site utilities and maintenance roads, specifics of site grading and drainage design and the boundaries of the overall disturbance area. The overall disturbance area for Reconfigured Alternative 3 would be 4,328.8 acres

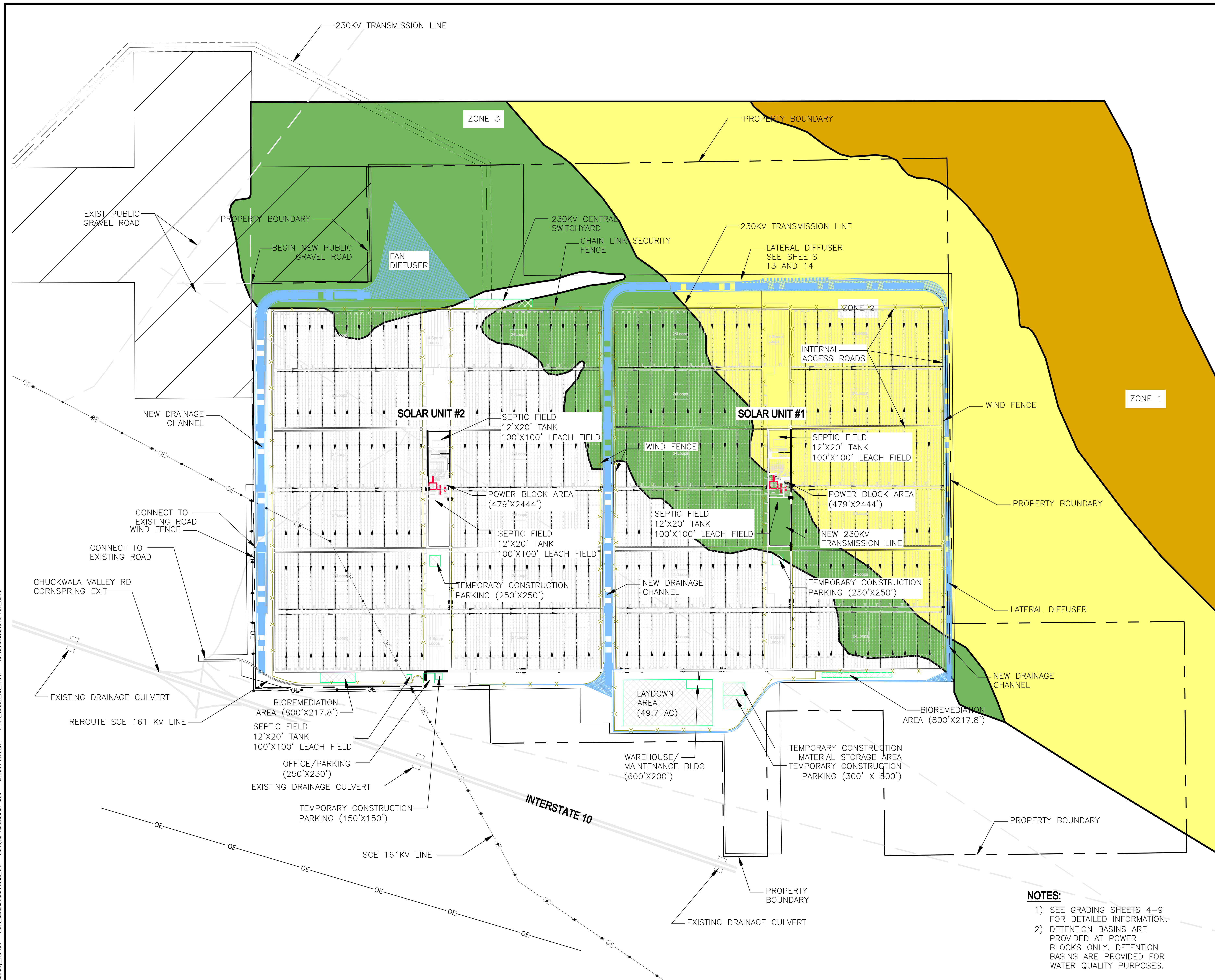
Although the layout of facilities is different for Reconfigured Alternative 3 than for the proposed Project, the total area occupied by solar facilities is essentially unchanged. As noted earlier, the layout of the reconfigured alternative is not as efficient operationally as the proposed Project, and there likely would a very small increase in the total length of maintenance roads and some internal utility lines, and Project fencing. However, it should be emphasized that these changes are very minor.

The grading and drainage detailed design for Reconfigured Alternative 3 will be slightly different from the proposed Project, but the drainage concept and the grading approach will be same. The drainage plan for Reconfigured Alternative 3 site includes the West Channel and the Central Channel essentially unchanged from the proposed Project. The West Channel is completely unaffected by this alternative; the Central Channel is approximately 5,500 feet shorter than in the proposed Project Plan, but the width and depth of the channel will remain unchanged and the flow in the channel is also anticipated to be very similar to the proposed Project. In addition, the Central Channel lateral diffuser has been replaced with a fan diffuser in this alternative due to the fact that the release point for the drainage water occurs at a location where the fan spread of the pre-development flow is narrower.

The East Channel will be approximately 1,000 feet longer than for the proposed Project, and the lateral diffuser at the end of the East Channel has been extended approximately 1,200 feet to disperse flows from the solar fields. The additional length of the East Channel will have negligible effect on the peak flows and volumes, and these flows from the upstream areas to the downstream areas will be maintained just as they were in the proposed Project. Under Reconfigured Alternative 3, one additional drainage channel has been added to the southeast side of the PSPP site to intercept off-site drainage flows. This channel will be engineered in the same fashion as the other channels so that the upstream flow is directed to the same general downstream discharge area as the pre-development flow. Two additional on-site peripheral channels and three fan diffusers have been added in the mid-northeastern portion of the Reconfigured Alternative 3 site plan to direct on-site flows to the appropriate downstream area. These changes should not require new conditions of certification beyond those proposed in the SA/DEIS.

The site grading approach for Reconfigured Alternative 3 will be essentially the same as the approach of the proposed Project. The solar fields will be graded to have small drainage swales that collect water between the solar arrays, which in turn will flow to collector channels and finally to the peripheral channels. The solar

fields will be graded and terraced very similarly to the proposed Project and the site will grade generally downhill from southwest to northeast. Since the existing ground slope in the Reconfigured Alternative 3 area is very similar to with the slopes in the area encompassed by the propose Project, the volume of earthwork and associated construction water use will be very similar to the proposed Project.



NOTES:

1) SEE GRADING SHEETS 4-9 FOR DETAILED INFORMATION.
2) DETENTION BASINS ARE PROVIDED AT POWER BLOCKS ONLY. DETENTION BASINS ARE PROVIDED FOR WATER QUALITY PURPOSES.

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Designed: Tomas Gonzales -
Checked: Dennis Lucas -
Drawn: Tomas Gonzales DTG
Record Drawing by/date: November,2009

Revisions:

#	DATE	DESCRIPTION
1	JULY,2009	REV SITE PLAN AND POWER BLOCK PER-FLAGSOL DWG PDL_GEN_ARR_00103-2007
2	JULY,2009	REV SITE PLAN AND POWER BLOCK PER-FLAGSOL DWG BL1_HTF_GEN_ARR_001_rev4
3	JULY,2009	REV INCREASED BIOREMEDIATION AREA TO 4-4 ACRES SITES.
4	Jan,2010	Towill Survey data & Topo, Fagsol powerblock dated 7-22-09.

Prepared for:

PALEN SOLAR I, LLC

LEGEND:

- SAND TRANSPORT ZONE 1
- SAND TRANSPORT ZONE 2
- SAND TRANSPORT ZONE 3
- BALANCE OF PLANT FACILITIES
- SOIL CEMENT
- CHANNEL & FAN DIFFUSER
- DROP STRUCTURES WITH SOIL CEMENT
- CHANNEL CONNECTION
- BOX CULVERT
- SLOPE
- HEADER PIPES
- LOOPS
- DITCH
- PROPOSED CHANNEL
- PROPOSED ACCESS ROAD (PAVED)
- PROPOSED ACCESS ROAD CENTER LINE
- PROPOSED WIND FENCE
- PROPOSED SILT FENCE
- PROPOSED FIBER ROLLS
- PROPOSED SECURITY FENCE
- PROPOSED CONTOURS
- EXISTING GRAVEL ROAD
- EXISTING CONTOURS
- SITE BOUNDARY
- PROPOSED OVERHEAD ELECTRIC
- WATER LINE
- ELECTRICAL LINE
- GAS LINE

Palen Solar Power Project

Riverside County, California

Figure 2-1
Preliminary Site Plan
Proposed Project

Date: 2/15/2010
Sheet: 1 of 1

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XREFS: X-V-AP02 - x-v-et01 - edaw-sandzone - alternative 2 IMAGES:

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Designed:	Tomas Gonzales	-
Checked:	Dennis Lucas	-
Drawn:	Tomas Gonzales	DTG
Record Drawing by/date:		

Revisions:

#	DATE	DESCRIPTION
1	-	-
2		
3		
4		

Prepared for:

PALEN SOLAR I, LLC

Palen Solar Power Project

Riverside County, California

Figure 2-2

Preliminary Site Plan Reconfigured Alternative 2

Date: 6/23/2010
Sheet: 1 of 1

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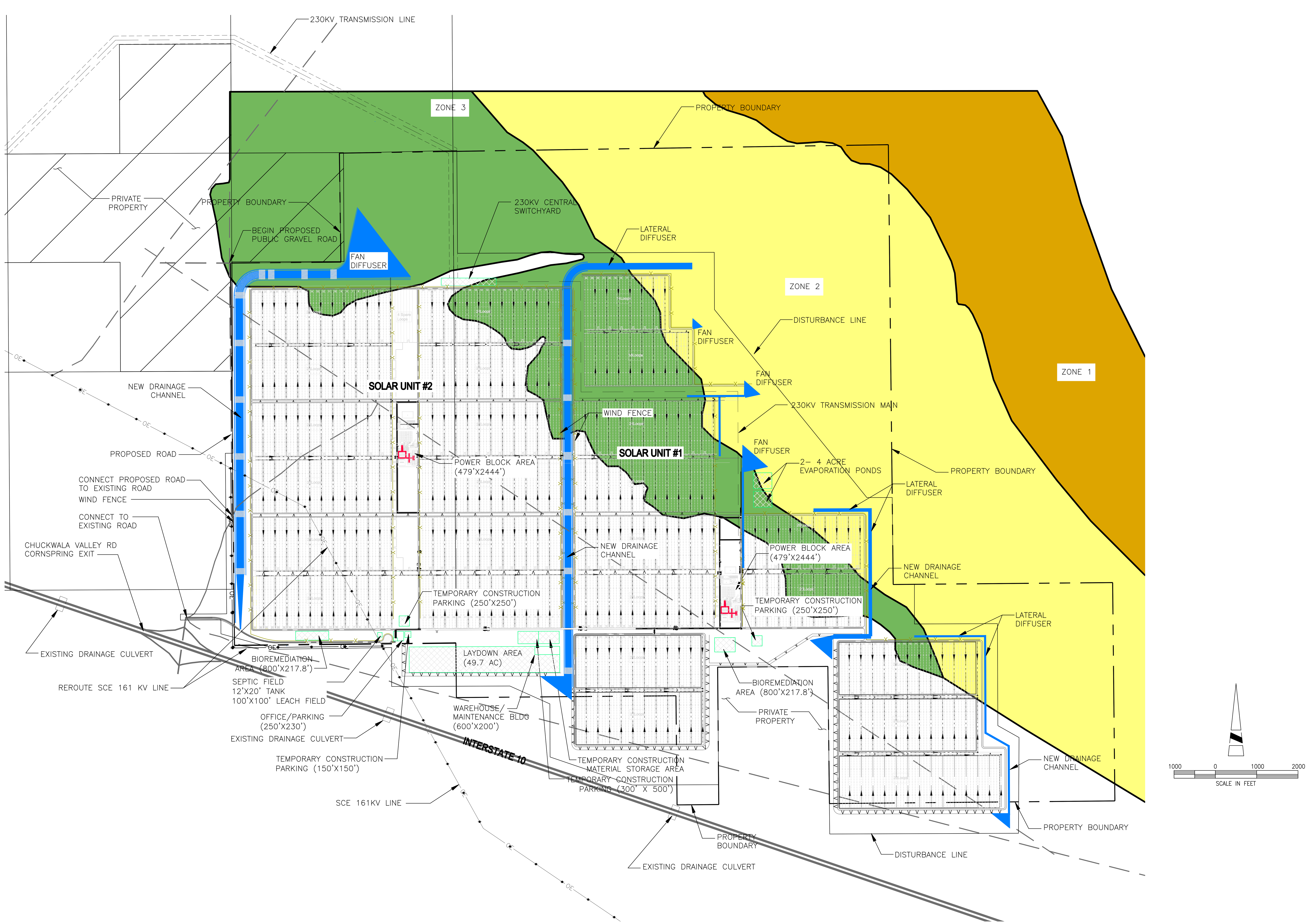
XREFS: edaw-sandzone – alternative 3 IMAGES:



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PALEN SOLAR I, LLC

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- GAS LINE

Palen Solar Power Project

Riverside County, California

Figure 2-3

Preliminary Site Plan Reconfigured Alternative 3

Date: 6/23/2010
Sheet: 1 of 1

3.0 Environmental Information

3.1 Introduction

The following subsections briefly address the potential differences in the environmental impacts and associated mitigation measures for the two new PSPP alternatives (Reconfigured Alternative 2 and Reconfigured Alternative 3) as compared to the proposed Project in each of the resource areas included in the 2009 AFC. Subsections are included for each of the AFC disciplines. Within the disciplines, separate discussions are provided for each of the two new Project alternatives. For each alternative, the discussion briefly touches on the Affected Environment, Environmental impacts, and Mitigation Measures.

3.2 Air Quality

3.2.1 Reconfigured Alternative 2

3.2.1.1 Affected Environment

Baseline air quality conditions (meteorology, ambient air quality, topography) for Reconfigured Alternative 2 are the same as for the proposed Project.

3.2.1.2 Environmental Impacts

The nature, scale, equipment, schedule and timing of the emission producing activities, sources and associated air pollutant emissions associated with construction and operation of Reconfigured Alternative 2 are very similar to those of the proposed Project. For the reasons outlined in the AFC and supplemental information, air quality impacts associated with construction of the alternative would be less than significant and virtually identical to the proposed Project. Emissions during operations are also nearly identical to the proposed Project and although the locations of the emitting facilities have moved slightly, impacts are expected to be similar as well.

3.2.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in air quality mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.2.2 Reconfigured Alternative 3

3.2.2.1 Affected Environment

Baseline air quality conditions (meteorology, ambient air quality, topography) for Reconfigured Alternative 3 are the same as for the proposed Project.

3.2.2.2 Environmental Impacts

The nature, scale, equipment, schedule and timing of the emission producing activities, sources and associated air pollutant emissions associated with construction and operation of Reconfigured Alternative 3 are very similar to those of the proposed Project. For the reasons outlined in the AFC and supplemental information, air quality impacts associated with construction of the alternative would be less than significant and virtually identical to the proposed Project. Emissions during operations are also nearly identical to the proposed Project and although the locations of the emitting facilities have moved slightly, impacts are expected to be similar as well.

3.2.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in air quality mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.3 Biological Resources

3.3.1 Reconfigured Alternative 2

Biological survey results for Reconfigured Alternative 2 are presented in the Palen Solar Power Project Biological Resources Data Package provided as an attachment to this report. This attachment presents the combined results in tabular and graphic form of spring 2009, fall 2009, and spring 2010 biological surveys for the disturbance area and associated buffer areas of the reconfigured alternative.

Quantitative results are presented for: vegetation communities and other cover types (acres), potential jurisdictional Waters of the United States and Waters of the State (acres),special status plant species documented in the surveys (number of GPS points and numbers of individuals for each plant species), desert tortoise observations (numbers of tortoise observed within the disturbance area and associated buffers), the amount of desert tortoise suitable habitat (both moderate quality and low quality) and desert tortoise critical habitat (moderate quality and low quality) within the disturbance area (acres).

The survey results are presented to provide the basis for the CEC Staff analysis of the biological resources impacts of Reconfigured Alternative 2. This analysis is to be included in a forthcoming revision to the PSPP Staff Assessment initially published in March 2010.

3.3.2 Reconfigured Alternative 3

Biological survey results for Reconfigured Alternative 3 are presented in the Palen Solar Power Project Biological Resources Data Package provided as an attachment to this report. This attachment presents the combined results in tabular and graphic form of spring 2009, fall 2009, and spring 2010 biological surveys for the disturbance area and associated buffer areas of the reconfigured alternative.

Quantitative results are presented for: vegetation communities and other cover types (acres), potential jurisdictional Waters of the United States and Waters of the State (acres),special status plant species documented in the surveys (number of GPS points and numbers of individuals for each plant species), desert tortoise observations (numbers of tortoise observed within the disturbance area and associated buffers), the amount of desert tortoise suitable habitat (both moderate quality and low quality) and desert tortoise critical habitat (moderate quality and low quality) within the disturbance area (acres).

The survey results are presented to provide the basis for the CEC Staff analysis of the biological resources impacts of Reconfigured Alternative 3. This analysis is to be included in a forthcoming revision to the PSPP Staff Assessment initially published in March 2010.

3.4 Cultural Resources

3.4.1 Reconfigured Alternative 2

3.4.1.1 Affected Environment

Baseline cultural resources conditions are summarized in the results of the CHRIS Information Center records searches previously conducted for the proposed Project, which encompass the new disturbance areas and required records search buffer for Reconfigured Alternative 2. These results have been docketed with the CEC.

3.4.1.2 Environmental Findings

Previously conducted CHRIS Information Center records searches encompass the new disturbance areas and required records search buffer for Reconfigured Alternative 2. Based on records, search results which have been forwarded to CEC, and the nature of the cultural history and geography of the area, potential impacts to cultural resources of Reconfigured Alternative 2 are very similar to those of the proposed Project.

3.4.1.3 Mitigation Measures/Conditions of Certification

There would be no qualitative differences in cultural resources mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.4.2 Reconfigured Alternative 3

3.4.2.1 Affected Environment

Baseline cultural resources conditions are summarized in the results of the CHRIS Information Center records searches previously conducted for the proposed Project, which encompass the new disturbance areas and required records search buffer for Reconfigured Alternative 3. These results have been docketed with the CEC.

3.4.2.2 Environmental Findings

Previously conducted CHRIS Information Center records searches encompass the new disturbance areas and required records search buffer for Reconfigured Alternative 3. Based on records search results which have been forwarded to CEC and the nature of the cultural history and geography of the area, potential impacts to cultural resources of Reconfigured Alternative 3 are very similar to those of the proposed Project.

3.4.2.3 Mitigation Measures/Conditions of Certification

There would be no qualitative differences in cultural resources mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.5 Geologic Hazards

3.5.1 Reconfigured Alternative 2

3.5.1.1 Affected Environment

There are no or negligible differences with respect to geologic hazards (seismicity, topography, landslide and soil erosion potential, etc.) for the Reconfigured Alternative 2 site compared to the proposed Project configuration. The primary reason for devising Reconfigured Alternative 2 (and Reconfigured Alternative 3) has been to greatly reduce the Project's disturbance footprint in the sandy areas in the eastern portions of the proposed Project site that are part of the regional aeolian sand transport system and that are habitat for Mojave Fringe-toed lizard (MFTL) (see Figures 2-1 and 2-2).

3.5.1.2 Environmental Impacts

There would be no differences in impacts on geologic hazards and resources between Reconfigured Alternative 2 and the proposed Project. Geologic hazards and resources impacts would be less than significant

3.5.1.3 Mitigation Measures/Conditions of Certification

There are no differences in geologic hazards and resources mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.5.2 Reconfigured Alternative 3

3.5.2.1 Affected Environment

There are no or negligible differences with respect to geologic hazards (seismicity, topography, landslide and soil erosion potential, etc.) for Reconfigured Alternative 3 site compared to the proposed Project configuration. The primary reason for devising Reconfigured Alternative 3 (and Reconfigured Alternative 2) has been to greatly reduce the Project's disturbance footprint in the sandy areas in the eastern portions of the proposed Project site that are part of the regional aeolian sand transport system and are habitat for Mojave Fringe-toed lizard (MFTL) (see Figures 2-1 and 2-3).

3.5.2.2 Environmental Impacts

There would be no differences in impacts on geologic hazards and resources between Reconfigured Alternative 3 and the proposed Project. Geologic hazards and resources impacts would be less than significant

3.5.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in geologic hazards and resources mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.6 Hazardous Materials Handling

3.6.1 Reconfigured Alternative 2

3.6.1.1 Affected Environment

Baseline conditions with respect to hazardous materials are the same for Reconfigured Alternative 2 as for the proposed Project. Both sites are undeveloped with no known hazardous materials activities past or present.

3.6.1.2 Environmental Impacts

Chemicals storage and use for Reconfigured Alternative 2 would not differ from the proposed Project. Construction and operational equipment, processes, and procedures would be the same in both cases. Impacts would be less than significant.

3.6.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in hazardous materials handling mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.6.2 Reconfigured Alternative 3

3.6.2.1 Affected Environment

Baseline conditions with respect to hazardous materials are the same for Reconfigured Alternative 3 as for the proposed Project. Both sites are undeveloped with no known hazardous materials activities past or present.

3.6.2.2 Environmental Impacts

Chemicals storage and use for Reconfigured Alternative 3 would not differ from the proposed Project. Construction and operational equipment, processes, and procedures would be the same in both cases. Impacts would be less than significant.

3.6.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in hazardous materials handling mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.7 Land Use

3.7.1 Reconfigured Alternative 2

3.7.1.1 Affected Environment

Baseline conditions with respect to land use are the same for Reconfigured Alternative 2 as for the proposed Project. The two additional private parcels, APNs #810190001 and #810190002, are zoned W-2-10 and designated in the Riverside County General Plan as Open Space Rural. The County considers a solar facility to be consistent with this designation. Per County Code Section 15.1(e) (2)), the W-2 zone permits public utilities, structures, and appurtenant facilities for power generation and other such infrastructure.

3.7.1.2 Environmental Impacts

Reconfigured Alternative 2 land use impacts would be less than significant. The construction of a solar thermal power plant on three private parcels (one 40-acre parcel and the two additional 125-acre parcels) designated Open Space Rural and zoned W-2-10 by Riverside County might normally require a Conditional Use Permit (CUP) for conformance if it were not for the CEC's sole thermal power plant licensing jurisdiction. The existing W-2-10 zoning allows public utility uses including "structures and the pertinent facilities necessary and incidental to the development and transmission of electrical power and gas lines such as hydroelectric power plants, booster or conversion plants, transmission lines, pipe lines and the like…" Reconfigured Alternative 2 is consistent with the zoning and General Plan Designation and therefore will not result in significant land use impacts.

3.7.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in land use mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.7.2 Reconfigured Alternative 3

3.7.2.1 Affected Environment

Baseline conditions with respect to land use are the same for Reconfigured Alternative 3 as for the proposed Project.

3.7.2.2 Environmental Impacts

Reconfigured Alternative 3 land use impacts would be less than significant. The construction of a solar thermal power plant on a site that includes private property (one 40-acre parcel) designated Open Space Rural and zoned W-2-10 by Riverside County might normally require a Conditional Use Permit (CUP) for conformance if it were not for the CEC's sole thermal power plant licensing jurisdiction. The existing W-2-10 zoning allows public utility uses including "structures and the pertinent facilities necessary and incidental to the development and transmission of electrical power and gas lines such as hydroelectric power plants, booster or conversion plants, transmission lines, pipe lines and the like…" While Reconfigured Alternative 3 does not involve new private parcels, it will utilize the same private parcel as the original proposed Project. This alternative, like the proposed Project, is consistent with the zoning and General Plan Designation and therefore will not result in significant land use impacts.

3.7.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in Land Use mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.8 Noise

3.8.1 Reconfigured Alternative 2

3.8.1.1 Affected Environment

There are no or negligible differences between the ambient noise conditions for Reconfigured Alternative 2 compared to the proposed Project. No additional noise sources or new sensitive receptors would be involved.

3.8.1.2 Environmental Impacts

Project construction and operational noise sources and associated noise emissions would be the same as the proposed Project for all intents and purposes. While some Project noise sources would be somewhat closer to the I-10 freeway, no additional sensitive receptors would be affected and the noise impacts of Reconfigured Alternative 2 would be the same as the proposed Project. Impacts would be less than significant.

3.8.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in noise mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.8.2 Reconfigured Alternative 3

3.8.2.1 Affected Environment

There are no or negligible differences between the ambient noise conditions for Reconfigured Alternative 3 compared to the proposed Project. No additional noise sources or new sensitive receptors would be involved.

3.8.2.2 Environmental Impacts

Project construction and operational noise sources and associated noise emissions would be the same as the proposed Project for all intents and purposes. While some Project noise sources would be somewhat closer to the I-10 freeway, no additional sensitive receptors would be affected and the noise impacts of Reconfigured Alternative 3 would be the same as the proposed Project. Impacts would be less than significant.

3.8.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in noise mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.9 Paleontological Resources

3.9.1 Reconfigured Alternative 2

3.9.1.1 Affected Environment

There are no or negligible differences between the underlying geology for Reconfigured Alternative 2 compared to the proposed Project. Thus, there would be no differences in the likelihood of presence of

paleontological resources (i.e., paleontological sensitivity) for the Reconfigured Alternative 2 site layout compared to the proposed Project.

3.9.1.2 Environmental Impacts

Because the paleontological sensitivity of the areas underlying Reconfigured Alternative 2 are not different than the paleontological resources sensitivity of the proposed Project, potential impacts of this alternative on paleontological resources would be same as for the proposed Project. With planned mitigation measures for ground disturbing activities in areas of high paleontological sensitivity (e.g., monitoring by qualified paleontological professionals), impacts would be less than significant.

3.9.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in paleontological resources mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.9.2 Reconfigured Alternative 3

3.9.2.1 Affected Environment

There are no or negligible differences between the underlying geology for Reconfigured Alternative 3 compared to the proposed Project. Thus, there would be no differences in the likelihood of presence of paleontological resources (i.e., paleontological sensitivity) for the Reconfigured Alternative 3 site layout compared to the proposed Project.

3.9.2.2 Environmental Impacts

Because the paleontological sensitivity of the areas underlying Reconfigured Alternative 3 are not different than the paleontological resources sensitivity of the proposed Project, potential impacts of this alternative on paleontological resources would be same as for the proposed Project. With planned mitigation measures for ground disturbing activities in areas of high paleontological sensitivity (e.g., monitoring by qualified paleontological professionals), impacts would be less than significant.

3.9.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in paleontological resources mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.10 Public Health

3.10.1 Reconfigured Alternative 2

3.10.1.1 Affected Environment

There are no or negligible differences between public health baseline conditions for Reconfigured Alternative 2 compared to the proposed Project. No additional existing sources of toxic air emissions would be involved, nor would there be any differences in sensitive receptors potentially exposed to Project emissions.

3.10.1.2 Environmental Impacts

There would be no or negligible differences in potential toxic air emissions under Reconfigured Alternative 2 compared to the proposed Project. Because of the absence of sensitive receptors in areas potentially exposed to Project emissions under this alternative, the public health impacts of Reconfigured Alternative 2 would be the same as for the proposed Project. Impacts would be less than significant.

3.10.1.3 Mitigation Measures/Conditions of Certification

There would be no differences public health mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.10.2 Reconfigured Alternative 3

3.10.2.1 Affected Environment

There are no or negligible differences between public health baseline conditions for Reconfigured Alternative 3 compared to the proposed Project. No additional existing sources of toxic air emissions would be involved, nor would there be any differences in sensitive receptors potentially exposed to Project emissions.

3.10.2.2 Environmental Impacts

There would be no or negligible differences in potential toxic air emissions under Reconfigured Alternative 3 compared to the proposed Project. Because of the absence of sensitive receptors in areas potentially exposed to Project emissions under this alternative, the public health impacts of Reconfigured Alternative 3 would be the same as for the proposed Project. Impacts would be less than significant.

3.10.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in public health mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.11 Socioeconomics

3.11.1 Reconfigured Alternative 2

3.11.1.1 Affected Environment

There would be no differences in baseline socioeconomic conditions under Reconfigured Alternative 2 compared to the proposed Project. The same populations (including low income and minority populations), communities, and jurisdictions (counties) would be potentially affected; the same construction and operational labor pools would be involved, etc.

3.11.1.2 Environmental Impacts

There would be no or negligible differences between the construction phase or operational phase work forces, equipment needs, and local expenditures for goods and services associated with Reconfigured Alternative 2 compared to the proposed Project. No differences would be expected in socioeconomic impacts (i.e., no differences in impacts on population, housing, public services and infrastructure, and no differences in property or sales tax revenues generated by Project activities during construction). Because there would be no difference in the potential for disproportionate impacts on minority or low-income populations, there would be no difference in potential environmental justice impacts for this alternative. Socioeconomic impacts of the alternative would be less than significant.

3.11.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in socioeconomics mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.11.2 Reconfigured Alternative 3

3.11.2.1 Affected Environment

There would be no differences in baseline socioeconomic conditions under Reconfigured Alternative 3 compared to the proposed Project. The same populations (including low income and minority populations), communities, and jurisdictions (counties) would be potentially affected; the same construction and operational labor pools would be involved, etc.

3.11.2.2 Environmental Impacts

There would be no or negligible differences between the construction phase or operational phase work forces, equipment needs, and local expenditures for goods and services associated with Reconfigured Alternative 3 compared to the proposed Project. No differences would be expected in socioeconomic impacts (i.e., no differences in impacts on population, housing, public services and infrastructure, and no differences in property or sales tax revenues generated by Project activities during construction). Because there would be no difference in the potential for disproportionate impacts on minority or low-income populations, there would be no difference in potential environmental justice impacts for this alternative. Socioeconomic impacts of the alternative would be less than significant.

3.11.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in public health mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.12 Soils

3.12.1 Reconfigured Alternative 2

3.12.1.1 Affected Environment

Based on the general soil mapping conducted as part of the AFC, there are two soil units on the Project site: 1) the Rositas-Dune land-Carsitas unit and 2) the Vaiva-Quilotosa-Hyder-Cipriano-Cherioni unit (see Figure 5.12-1). In the proposed Project configuration, the Rositas-Dune land-Carsitas unit occurs on about 54 percent of the overall ROW and is characterized by soils with a very high sand percentage (greater than 95 percent) that are highly susceptible to wind erosion. The remaining 46 percent of the ROW was mapped as the Vaiva-Quilotosa-Hyder-Cipriano-Cherioni unit characterized by soils with high percentage (greater than 65 percent) of sand.

Baseline soils conditions for Reconfigured Alternative 2 are essentially the same as for the proposed Project. Site soils in both cases are generally sandy silts to silty sands; site slopes also are virtually the same. The percentage of each soil type does not change within the overall ROW; however, Reconfigured Alternative 2 locates approximately 80 percent of the facility footprint on the Vaiva-Quilotosa-Hyder-Cipriano-Cherioni map unit and approximately 20 percent of the facility footprint on the Rositas-Dune land-Carsitas map unit.

3.12.1.2 Environmental Impacts

As discussed in Section 2.0 above, the site grading approach for Reconfigured Alternative 2 will be essentially the same as for the proposed Project. The solar fields will be graded to have small drainage swales that collect water between the solar arrays, which in turn will flow to collector channels and finally to the peripheral channels. The Reconfigured Alternative 2 solar fields will be graded and terraced very similarly to the proposed Project and the site generally will grade downhill from southwest to northeast. Because of the similarities in site conditions and because construction and operation phase equipment, processes, and procedures would be essentially the same, the amount of earthwork required for this

alternative would be virtually the same as for the proposed Project. For these reasons, soils impacts for Reconfigured Alternative 2 would be the same as for the proposed Project, less than significant.

3.12.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in grading and resources mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.12.2 Reconfigured Alternative 3

3.12.2.1 Affected Environment

Based on the general soil mapping conducted as part of the AFC, there are two soil units on the Project site: 1) the Rositas-Dune land-Carsitas unit and 2) the Vaiva-Quilotosa-Hyder-Cipriano-Cherioni unit (see Figure 5.12-1). In the proposed Project configuration, the Rositas-Dune land-Carsitas unit occurs on about 54 percent of the overall ROW and is characterized by soils with a very high sand percentage (greater than 95 percent) that are highly susceptible to wind erosion. The remaining 46 percent of the ROW was mapped as the Vaiva-Quilotosa-Hyder-Cipriano-Cherioni unit characterized by soils with high percentage (greater than 65 percent) of sand.

Baseline soils conditions for Reconfigured Alternative 3 are essentially the same as for the proposed Project. Site soils in both cases are generally sandy silts to silty sands'; site slopes also are virtually the same. The percentage of each soil type does not change within the overall ROW; however, Reconfigured Alternative 3 locates approximately 75 percent of the facility footprint on the Vaiva-Quilotosa-Hyder-Cipriano-Cherioni map unit and approximately 25 percent of the facility footprint on the Rositas-Dune land-Carsitas map unit.

3.12.2.2 Environmental Impacts

As discussed in Section 2.0 above, the site grading approach for Reconfigured Alternative 3 will be essentially the same as for the proposed Project. Because of the similarities in site conditions and because construction and operation phase equipment, processes, and procedures would be essentially the same, the amount of earthwork required for this alternative would be virtually the same as for the proposed Project. For these reasons, soils impacts for Reconfigured Alternative 3 would be the same as for the proposed Project, less than significant.

3.12.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in grading and resources mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.13 Traffic and Transportation

3.13.1 Reconfigured Alternative 2

3.13.1.1 Affected Environment

Baseline traffic and transportation conditions for Reconfigured Alternative 2 would be the same as for the proposed Project. The same roadways (I-10 and the I-10 Corn Springs Road onramp and offramp and the short existing stub of Corn Springs Road at the end of the ramp) would be involved for travel/access to and from the PSPP site in both cases, and there would be no operating airports nearby.

3.13.1.2 Environmental Impacts

Project vehicular travel volumes and timing would be the same for Reconfigured Alternative 2 as for the proposed Project. There would be no or negligible differences in the construction or operation phase

workforce requirements and schedule and thus, there would be no differences in worker commuting vehicular traffic volumes or impacts. The amount of truck deliveries and shipments during construction and operation also would be essentially the same in both cases. For these reasons, traffic and transportation impacts of Reconfigured Alternative 2 would be the same as for the proposed Project.

3.13.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in traffic and resources mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.13.2 Reconfigured Alternative 3

3.13.2.1 Affected Environment

Baseline traffic and transportation conditions for Reconfigured Alternative 3 would be the same as for the proposed Project. The same roadways (I-10 and the I-10 Corn Springs Road onramp and offramp and the short existing stub of Corn Springs Road at the end of the ramp) would be involved for travel/access to and from the PSPP site in both cases, and there would be no operating airports nearby.

3.13.2.2 Environmental Impacts

Project vehicular travel volumes and timing would be the same for Reconfigured Alternative 3 as for the proposed Project. There would be no or negligible differences in the construction or operation phase workforce requirements and schedule and thus, there would be no differences in worker commuting vehicular traffic volumes or impacts. The amount of truck deliveries and shipments during construction and operation also would be essentially the same in both cases. For these reasons, traffic and transportation impacts of Reconfigured Alternative 3 would be the same as for the proposed Project.

3.13.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in traffic and resources mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.14 Transmission Line Safety and Nuisance

3.14.1 Reconfigured Alternative 2

3.14.1.1 Affected Environment

Baseline conditions with respect to transmission safety and nuisance issues would be the same for Reconfigured Alternative 2 as for the proposed Project. An existing SCE 161 kV power line crosses the southwest portion of the Reconfigured Alternative 2 site layout, as is the case for the proposed Project layout.

3.14.1.2 Environmental Impacts

Although the configuration of onsite transmission lines would be somewhat different for this reconfigured alternative compared to the proposed Project, there would be no differences in the route, voltage, transmission structures, locations, etc. for the gen-tie line for Reconfigured Alternative 2 compared to the proposed Project. No differences in transmission safety and nuisance impacts would be expected between the reconfigured alternative and the proposed Project. Impacts in both cases would be less than significant.

3.14.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in transmission safety and nuisance mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.14.2 Reconfigured Alternative 3

3.14.2.1 Affected Environment

Baseline conditions with respect to transmission safety and nuisance issues would be the same for Reconfigured Alternative 3 as for the proposed Project. An existing SCE 161 kV power line crosses the southwest portion of the Reconfigured Alternative 3 site layout, as is the case for the proposed Project layout.

3.14.2.2 Environmental Impacts

Although the configuration of onsite transmission lines would be somewhat different for this reconfigured alternative compared to the proposed Project, there would be no differences in the route, voltage, transmission structures, locations, etc. for the gen-tie line for Reconfigured Alternative 3 compared to the proposed Project. No differences in transmission safety and nuisance impacts would be expected between the reconfigured alternative and the proposed Project. Impacts in both cases would be less than significant

3.14.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in transmission safety and nuisance mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.15 Visual Resources

3.15.1 Reconfigured Alternative 2

3.15.1.1 Affected Environment

There is no difference in visual resources baseline conditions between Reconfigured Alternative 2 and the proposed Project, which overlaps the alternative layout in large part. In both cases, the sites are undeveloped desert land in the Chuckwalla Valley. From a visual resources perspective, the Reconfigured Alternative 2 site is indistinguishable from the proposed Project site layout. As with the proposed Project, the viewing population would be small because of the rural nature of the site. The primary viewing location for the vast majority of viewers would be travelers on the I-10 freeway. There would be no appreciable difference in the views of the site from elevated locations in the general vicinity.

3.15.1.2 Environmental Impacts

The visual resources impacts of Reconfigured Alternative 2 would be essentially the same as the impacts of the proposed Project. The size, nature, materials of construction, planned surface finishes of Project structures and equipment, etc. would be the same for the alternative as for the proposed Project. The gen-tie line and other off-site linear facilities would be the same as for the proposed Project. The primary difference is that some of the solar facilities of Reconfigured Alternative 2 would be closer to I-10 than would be the case for the proposed Project. For viewers passing the site on I-10, the southern portion of the solar facilities would be slightly more prominent visually because of the shorter distance between the highway and the closest portions of the solar facility.

Both the proposed Project facilities and the facilities as laid out for Reconfigured Alternative 2 would substantially change the visual appearance of the area. However, impacts are considered less than significant for Reconfigured Alternative 2. As for the proposed Project, the solar fields of Reconfigured Alternative 2 would be relatively unobtrusive when viewed from eye level most of the day, and when viewed from elevated locations would change over time during the day because of movement of the sun and the changing orientation of the solar mirrors to track the sun. When viewed from elevated locations to the west, the solar array would resemble a body water as it reflects the blue sky on a sunny day and would appear more gray on a cloudy day; in late afternoon when the sun angle is low, the visual impression from elevated

locations to the west would be primarily brown as the mirrors reflect the brown desert ground surface. In the morning hours, viewers from elevated locations to the west would have the non-reflective backs of the mirrors toward them, in which case the visual contrast with the surrounding environment would be much less.

The Project area is classified by the BLM as Visual Resources Management (VRM) Class III, a classification whose objective is to partly retain the existing character of the landscape, with a moderate level of change from the existing landscape, and with changes that do not dominate the view. However, it should be noted that the BLM has designated the I-10 corridor as a utility corridor, and there already are high voltage transmission lines in the Project vicinity, (DPV I, Blythe Energy, the SCE 161 kV line that runs from Eagle Mountain to Blythe and crosses a corner of the PSPP site). BLM's designation of the area as a utility corridor conflicts with BLM's designation as VRM Class III. It would appear that this conflict might preclude a literal interpretation and strict adherence to VRM Class III management objectives. It also should be recognized that viewers may find the PSPP Reconfigured Alternative 2 facilities visually interesting as the facilities contribute to important societal goals (renewable energy, greenhouse gas reduction, energy independence).

3.15.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in visual resources mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.15.2 Reconfigured Alternative 3

3.15.2.1 Affected Environment

There is no difference in visual resources baseline conditions between Reconfigured Alternative 3 and the proposed Project, which overlaps the alternative layout in large part. In both cases, the sites are undeveloped desert land in the Chuckwalla Valley. From a visual resources perspective, the Reconfigured Alternative 3 site is indistinguishable from the proposed Project site layout. As with the proposed Project, the viewing population would be small because of the rural nature of the site; the primary viewing location for the vast majority of viewers would be travelers on the I-10 freeway. There would be no appreciable difference in the views of the site from elevated locations in the general vicinity

3.15.2.2 Environmental Impacts

The visual resources impacts of Reconfigured Alternative 3 would be essentially the same as the impacts of the proposed Project. The size, nature, materials of construction, planned surface finishes of Project structures and equipment, etc. would be the same for the alternative as for the proposed Project. The gen-tie line and other off-site linear facilities would be the same as for the proposed Project. The primary difference is that some of the solar facilities of Reconfigured Alternative 3 would be closer to I-10 than would be the case for the proposed Project. For viewers passing the site on I-10, the southern portion of the solar facilities would be slightly more prominent visually because of the shorter distance between the highway and the closest portions of the solar facility.

Both the proposed Project facilities and the facilities as laid out for Reconfigured Alternative 3 would substantially change the visual appearance of the area. However, impacts are considered less than significant for Reconfigured Alternative 3. As for the proposed Project, the solar fields of Reconfigured Alternative 3 would be relatively unobtrusive when viewed from eye level most of the day, and when viewed from elevated locations would change over time during the day because of movement of the sun and the changing orientation of the solar mirrors to track the sun. When viewed from elevated locations to the west, the solar array would resemble a body of water as it reflects the blue sky on a sunny day and would appear more gray on a cloudy day; in late afternoon when the sun angle is low, the visual impression from elevated locations to the west would be primarily brown as the mirrors reflect the brown desert ground surface. In the

morning hours, viewers from elevated locations to the west would have the non-reflective backs of the mirrors toward them, in which case the visual contrast with the surrounding environment would be much less.

The Project area is classified by the BLM as Visual Resources Management (VRM) Class III, a classification whose objective is to partly retain the existing character of the landscape, with a moderate level of change from the existing landscape, and with changes that do not dominate the view. However, it should be noted that the BLM has designated the I-10 corridor as a utility corridor, and there already are high voltage transmission lines in the Project vicinity, (DPV I, Blythe Energy, the SCE 161 kV line that runs from Eagle Mountain to Blythe and crosses a corner of the PSPP site). BLM's designation of the area as a utility corridor conflicts with BLM's designation as VRM Class III. It would appear that this conflict might preclude a literal interpretation and strict adherence to VRM Class III management objectives. It also should be recognized that viewers may find the PSPP Reconfigured Alternative 3 facilities visually interesting as the facilities contribute to important societal goals (renewable energy, greenhouse gas reduction, energy independence).

3.15.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in visual resources mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.16 Waste Management

3.16.1 Reconfigured Alternative 2

3.16.1.1 Affected Environment

Baseline conditions with respect to waste management are the same for Reconfigured Alternative 2 as for the proposed Project. Both the proposed and reconfigured alternative sites are undeveloped with no known history of past or present activities that would have generated wastes that would be of concern.

3.16.1.2 Environmental Impacts

Waste generating activities for Reconfigured Alternative 2 would not differ from the proposed Project. Construction and operational equipment, processes, and procedures would be the same in both cases. Impacts would be less than significant.

3.16.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in waste management mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.16.2 Reconfigured Alternative 3

3.16.2.1 Affected Environment

Baseline conditions with respect to waste management are the same for Reconfigured Alternative 3 as for the proposed Project. Both the proposed and reconfigured alternative sites are undeveloped with no known history of past or present waste-generating activities that would be of concern.

3.16.2.2 Environmental Impacts

Waste generating activities for Reconfigured Alternative 3 would not differ from the proposed Project. Construction and operational equipment, processes, and procedures would be the same in both cases. Impacts would be less than significant.

3.16.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in waste management mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.17 Water Resources

3.17.1 Reconfigured Alternative 2

3.17.1.1 Affected Environment

Surface Drainage - The drainage detailed design for the Reconfigured Alternative 2 site will be slightly different from the proposed Project, but the drainage concept and the grading approach will be same. The post-development peak flows and the drainage water volumes at the downstream locations of the channels are anticipated to be very similar to the pre-development peak flows and volumes. A good correlation between pre-development flows and post-development flows was achieved in the proposed Project condition, and the minimal changes proposed by the Reconfigured Alternative 2 site plan should also create a relatively good correlation of flows in this alternative.

The drainage plan for Reconfigured Alternative 2 still includes the West Channel and the Central Channel and these drainage channels will remain essentially unchanged. The West Channel is completely unaffected by the Reconfigured Alternative 2 site plan. The Central Channel is approximately 800 feet longer than in the proposed Project, but the width and depth of the channel will remain unchanged and the flow in the channel is also anticipated to be very close to the proposed Project. The East Channel will be approximately 7,000 feet longer than the proposed Project, but the flows from the upstream areas to the downstream areas will be maintained for peak flows and volumes just as they were in the proposed Project. One additional drainage channel has been added at the southeast side of the site to intercept off-site drainage flows and this channel will be engineered in the same fashion as the other channels such that the upstream flow is directed to the same general downstream discharge area as the pre-development flow. One additional on-site peripheral channel has been added in the mid-northeastern portion of the Reconfigured Alternative 2 site plan to direct on-site flows to the appropriate downstream area.

Construction Water - Construction water volume requirements are primarily a function of earthwork requirements and dust control measures. As previously noted in the Soils section, the underlying topography of Reconfigured Alternative 2 compared to the proposed Project is very similar and as such the volume of earthwork that will be created for cut and fill conditions will be very comparable between the Reconfigured Alternative 2 and the proposed Project. In addition, the surface area of the site that will be disturbed for actual construction of the solar fields and associated infrastructure is also very comparable between the Reconfigured Alternative 2 site plan and the base condition.

Operational Water – There is no change to the proposed configuration operational water supply requirements with the introduction of Reconfigured Alternative 2.

Groundwater Supply - The reconfiguration did not change the construction and operational water supply requirements for the Project. In the proposed Project, the proposed operational supply well locations were at the north and south ends of the power block. The reconfiguration only shifts the location of wells in the western power block about 3,000 feet to the south by comparison to the proposed Project. The eastern power block well locations are unchanged from the proposed Project.

3.17.1.2 Environmental Impacts

Surface Drainage - Surface drainage flow volumes and the total areas graded for drainage features associated with Reconfigured Alternative 2 would not differ significantly from the proposed Project.

Construction and operational equipment, processes, and procedures would be the same in both cases. Impacts would be less than significant.

Construction Water - Construction water volumes associated with Reconfigured Alternative 2 would not differ significantly from the proposed Project. Construction and operational equipment, processes, and procedures would be the same in both cases. Impacts would be less than significant.

Groundwater Supply - Because water supply requirements for Reconfigured Alternative 2 are unchanged from the proposed Project, there is no change in the conclusion that PSPP water supply requirements would not significantly affect water supply within the Chuckwalla Valley Groundwater Basin. The change in the location of the proposed pumping wells in the western power block is not significant relative to the base condition. The minor reconfiguration of the well field is insignificant, and as such the conclusion that the proposed pumping does not significantly impact drawdown in the offsite wells is unchanged from the base condition.

3.17.1.3 Mitigation Measures/Conditions of Certification

Surface Drainage - There would be no differences in drainage mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

Construction Water - There would be no differences in construction water mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

Groundwater Supply - There would be no differences in the water supply mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.17.2 Reconfigured Alternative 3

3.17.2.1 Affected Environment

Surface Drainage - The drainage detailed design for the Reconfigured Alternative 3 site will be slightly different from the proposed Project, but the drainage concept and the grading approach will be same. The post-development peak flows and the drainage water volumes at the downstream locations of the channels are anticipated to be very similar to the pre-development peak flows and volumes. A good correlation between pre-development flows and post-development flows was achieved in the proposed Project, and the minimal changes proposed by the Reconfigured Alternative 3 site plan should also created a relatively good correlation of flows for this alternative.

The drainage plan for Reconfigured Alternative 3 still includes the West Channel and the Central Channel and these drainage channels will remain essentially unchanged. The West Channel is completely unaffected by the Reconfigured Alternative 3 site plan. The Central Channel is approximately 5,500 feet shorter than in the proposed Project, but the width and depth of the channel will remain unchanged and the flow in the channel is also anticipated to be very close to the proposed Project. In addition, the Central Channel lateral diffuser has been replaced with a fan diffuser in this alternative because the release point for the drainage water occurs at a location where the fan spread of the pre-development flow is narrower. The East Channel will be approximately 1,000 feet longer than the proposed Project, and the lateral diffuser at the end of the East Channel has been extended approximately 1,200 feet to disperse flows from the solar fields. The additional length of the East Channel will have negligible effect on the peak flows and volumes, and these flows from the upstream areas to the downstream areas will be maintained just as they were in the proposed Project. One additional drainage channel has been added at the southeast side of the site to intercept off-site drainage flows and this channel will be engineered in the same fashion as the other channels such that the upstream flow is directed to the same general downstream discharge area as the pre-development flow. Two additional on-site peripheral channels and three fan diffusers have been added

in the mid-northeastern portion of the Reconfigured Alternative 3 site plan to direct on-site flows to the appropriate downstream area.

Construction Water - Construction water volume requirements are primarily a function of earthwork requirements and dust control measures. As previously noted in the Soils section, the underlying topography of Reconfigured Alternative 3 compared to the proposed Poject is very similar and as such the volume of earthwork that will be created for cut and fill conditions will be very comparable. . In addition, the surface area of the site that will be disturbed for actual construction of the solar fields and associated infrastructure is also very comparable between the Reconfigured Alternative 3 site plan and the proposed Project.

Operational Water – There is no change to the proposed configuration operational water supply requirements with the introduction of Reconfigured Alternative 3.

Groundwater Supply - The reconfiguration did not change the construction and operational water supply requirements for the Project. The proposed operational supply well locations were in the proposed configuration proposed at the north and south ends of the power block. The reconfiguration only shifts the location of wells in the western power block about 3,000 feet to the south by comparison to the proposed Project configuration. The eastern power block well locations are unchanged from the proposed Project.

3.17.2.2 Environmental Impacts

Surface Drainage - Surface drainage flow volumes and the total areas graded for drainage features associated with reconfigured Alternative 3 would not differ significantly from the proposed Project. Construction and operational equipment, processes, and procedures would be the same in both cases. Impacts would be less than significant.

Construction Water - Construction water volumes associated with Reconfigured Alternative 3 would not differ significantly from the proposed Project. Construction and operational equipment, processes, and procedures would be the same in both cases. Impacts would be less than significant.

Groundwater Supply - Because the water supply requirements are unchanged for Reconfigured Alternative 3 compared to the proposed Project, there is no change in the conclusion that the Project water supply requirements would not significantly affect water supply within the Chuckwalla Valley Groundwater Basin. The change in the location of the proposed pumping wells in the western power block is not significant relative to the proposed Project. The minor reconfiguration of the well field is insignificant, and as such the conclusion that the proposed pumping does not significantly impact drawdown in the offsite wells is unchanged from the proposed Project.

3.17.2.3 Mitigation Measures/Conditions of Certification

Surface Drainage - There would be no differences in drainage mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

Construction Water - There would be no differences in grading and resources mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

Groundwater Supply - There would be no differences in the water supply mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

3.18 Worker Safety

3.18.1 Reconfigured Alternative 2

3.18.1.1 Affected Environment

Baseline conditions with respect to worker safety are the same for Reconfigured Alternative 2 as for the proposed Project. In both cases, there are no present industrial or other human activities on the undeveloped desert lands that constitute the proposed or reconfigured alternative site.

3.18.1.2 Environmental Impacts

There would be no difference in worker safety impacts between the proposed Project and Reconfigured Alternative 2. Construction and operational activities would be the same in both cases. For Reconfigured Alternative 2, as for the proposed Project, during both construction and operation PSI would develop and implement processes and procedures, safety systems, training programs, management activities, etc. that ensure compliance with applicable requirements and protect the safety of Project workers. Impacts would be less than significant.

3.18.1.3 Mitigation Measures/Conditions of Certification

There would be no differences in waste management mitigation measures/Conditions of Certification for Reconfigured Alternative 2 compared to the proposed Project.

3.18.2 Reconfigured Alternative 3

3.18.2.1 Affected Environment

Baseline conditions with respect to worker safety are the same for Reconfigured Alternative 3 as for the proposed Project. In both cases, there are no present industrial or other human activities on the undeveloped desert lands that constitute the proposed or reconfigured alternative site.

3.18.2.2 Environmental Impacts

There would be no difference in worker safety impacts between the proposed Project and Reconfigured Alternative 3. Construction and operational activities would be the same in both cases. For Reconfigured Alternative 3, as for the proposed Project, during both construction and operation PSI would develop and implement processes and procedures, safety systems, training programs, management activities, etc. that ensure compliance with applicable requirements and protect the safety of Project workers. Impacts would be less than significant.

3.18.2.3 Mitigation Measures/Conditions of Certification

There would be no differences in waste management mitigation measures/Conditions of Certification for Reconfigured Alternative 3 compared to the proposed Project.

Appendix A

Biological Resources Data Package

PALEN SOLAR POWER PROJECT
BIOLOGICAL RESOURCES DATA PACKAGE
RIVERSIDE COUNTY, CALIFORNIA

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July 2010

1.0 INTRODUCTION

The following terms will be used throughout this report:

- Reconfigured Alternative 2 Disturbance Area: The Reconfigured Alternative 2 Disturbance Area encompasses the disturbance resulting from the proposed construction of Reconfigured Alternative 2 including solar fields, transmission facilities, office and maintenance buildings, lay down area, bioremediation area, drainage channels, leach fields, and other ancillary components.
- Focused Survey Areas: This includes all areas surveyed during 2009 and 2010 pursuant to survey protocols. Some of these areas were surveyed for contingency reasons in the engineering design process and ultimately will not be disturbed by the Palen Solar Power Project (PSPP or Project).
- Reconfigured Alternative 2 Biological Resources Survey Area (BRSA): The Reconfigured Alternative 2 BRSA includes the Reconfigured Alternative 2 Disturbance Area and all associated buffers.
- Focused Survey BRSA: The Focused Survey BRSA includes the Focused Survey Areas and all associated buffers.
- Reconfigured Alternative 3 Disturbance Area: The Reconfigured Alternative 3 Disturbance Area encompasses the disturbance resulting from the proposed construction of Reconfigured Alternative 3 including solar fields, transmission facilities, office and maintenance buildings, lay down area, bioremediation area, drainage channels, leach fields, and other ancillary components.
- Reconfigured Alternative 3 BRSA: The Reconfigured Alternative 3 BRSA includes the Reconfigured Alternative 3 Disturbance Area and all associated buffers.
- Site: Both the Reconfigured Alternative 2 and 3 Disturbance Areas.
- Desert Aquatic Resources Survey Area (DARSA): This includes the Reconfigured Alternative Disturbance Areas 2 and 3 and all associated 250-foot buffers.
- First Solar Survey Area: This includes a 1-mile section of the transmission line corridor leading to the Red Bluff East Substation. This area was surveyed by Tetra Tech as part f the proposed First Solar Desert Sunlight Solar Farm project located northwest of the PSPP. However, this data has not been available to Solar Millennium and its contractor

(AECOM); and therefore, the survey results and impacts evaluation for this section of the transmission line are not included herein.

1.1 BACKGROUND

AECOM performed biological resources studies for Palen Solar I, LLC, the Applicant for the proposed PSPP. This report summarizes the results of biological resources surveys conducted in 2009 and 2010 and presents acreages of Project disturbance to vegetation cover types and jurisdictional waters for the Reconfigured Alternative 2 and 3 layouts. This report summarizes the data yielded by the survey work (e.g., the number of acres of desert wash woodland that would be disturbed by the Project alternatives addressed in the report) and includes figures to enable the CEC to conduct an analysis of both alternatives in its Revised Staff Assessment.

Subsequent to the preparation of the Application for Certification (AFC) in August (AECOM 2009), Palen Solar I, LLC made various minor modifications to the PSPP in areas that had not yet been surveyed. AECOM surveyed these additional areas in spring 2010. In addition, the March 2010 California Energy Commission (CEC) Staff Assessment/Draft Environmental Impact Statement (SA/DEIS) analyzed a Reconfigured Alternative that AECOM surveyed as part of the spring 2010 surveys. The combined results of spring 2009, fall 2009 and spring 2010 biological surveys conducted to date for the desert tortoise (*Gopherus agassizii*; DT), western burrowing owl (*Athene cunicularia hypugaea*; WBO), golden eagle (*Aquila chrysaetos*; GOEA), botanical surveys, and jurisdictional waters are included herein. Incidental wildlife observations noted during protocol surveys for special status species and jurisdictional waters are also included herein.

It should be noted that the Applicant, in consultation with the resource agencies, introduced two further Reconfigured Alternative Disturbance Areas (Reconfigured Alternatives 2 and 3) subsequent to completing spring 2010 surveys; these alternatives were devised primarily to avoid impacts to Mojave fringe-toed lizard habitat. These two alternatives are the subject of this summary data package report. However, portions of Reconfigured Alternative Disturbance Areas 2 and 3 have not been subjected to focused surveys, although these areas were surveyed as part of the 1-mile survey buffer for earlier surveys.

1.2 RECONFIGURED ALTERNATIVES 2 AND 3 LOCATION

Palen Solar I, LLC (PSI or Applicant), is proposing to construct two commercial solar thermal electric-power-generating stations. Reconfigured Alternatives 2 and 3 each would include installation of two 250-MWsolar power units within an approximate 5279-acre Bureau of Land Management (BLM) right-of-way (ROW) located in the southern California inland desert,

approximately 10 miles east of Desert Center, in eastern Riverside County (Figure 1). Approximately 75 acres of Reconfigured Alternative 3 lies outside of the BLM ROW. The Reconfigured Alternative 2 Disturbance Area is 4,365.3 acres. The Reconfigured Alternative 3 Disturbance Area is 4,328.8 acres.

2.0 Data Tables and Figures

Table 1 through 8 quantify the combined results of spring 2009, fall 2009 and spring 2010 biological surveys conducted for the desert tortoise (*Gopherus agassizii*; DT), western burrowing owl (*Athene cunicularia hypugaea*; WBO), botanical surveys, and jurisdictional waters. The tables show the survey results for Reconfigured Alternatives 2 and 3. Figures 2 and 3 show the Reconfigured Alternatives Disturbance Area boundaries and Figures 4 and 5 show the proposed facility layouts associated with these alternatives. Figures 6 through 23 display the results of the biological surveys. GOEA survey results noted one inactive GOEA nest located just over 10 miles northeast of the Site and 4 inactive GOEA nests were located approximately 6 miles southwest of the Site.

Tables 1 through 3 present the results of vegetation mapping and jurisdictional waters surveys. Because it is assumed that anything within the Disturbance Area(s) will be permanently directly impacted by the PSPP, the "results" calculations are the same as the "impact" calculations. For example, all vegetation communities and cover types within the Disturbance Area(s) will be permanently directly impacted, and all jurisdictional waters within the Disturbance Area(s) will be permanently directly impacted. All jurisdictional waters hydrologically connected downstream within the buffer area were assumed to be permanently indirectly impacted.

Tables 4 and 5 present special status plant species observations within the BRSAs, All special status plant species within the Disturbance Area(s) will be permanently directly impacted.

Tables 6 presents DT observations and Table 7 presents DT habitat within the BRSAs. All DT observed and all DT habitat within the Disturbance Area(s) will be permanently directly impacted.

Table 8 presents non-listed species status wildlife observations within the BRSAs. All non-listed species status wildlife observed within the Disturbance Area will be permanently directly impacted.

Table 1
Vegetation Communities and Cover Types (in acres)

Vegetation Communities and Other Cover Types	Reconfigured Alternative 2 BRSA			Reconfigured Alternative 3 BRSA		
	Disturbance Area	Buffer Area	Total	Disturbance Area	Buffer Area	Total
Riparian						
Desert Dry Wash Woodland	207.80	629.33	837.14	197.60	661.86	859.47
Unvegetated Ephemeral Dry Wash[a]	180.08	41.01	221.09	167.88	53.29	221.17
Subtotal Riparian	387.88	670.34	1,058.22	365.48	715.16	1,080.64
Upland						
Active Desert Dunes	-	55.86	55.86	-	101.57	101.57
Desert Sink Scrub	-	9.40	9.40	-	9.40	9.40
Dry Lake Bed	-	121.22	121.22	-	217.64	217.64
Sonoran Creosote Bush Scrub	3,816.91	7,827.07	11,643.98	3,770.64	7,939.78	11,710.42
Stabilized and Partially Stabilized Desert Dunes	155.59	676.03	831.62	187.83	698.06	885.89
Subtotal Upland	3,972.50	8,689.58	12,662.09	3,958.47	8,966.45	12,924.92
Other Cover Types						
Agricultural Fields	3.05	803.80	806.85	3.05	803.80	806.85
Developed	1.84	184.49	186.33	1.84	187.73	189.57
Subtotal Other Cover Types	4.88	988.29	993.18	4.88	991.53	996.42
Total Acres[b]	4,365.27	10,348.22	14,713.49	4,328.84	10,673.13	15,001.97

[a] Unvegetated channels are considered by some to be potentially jurisdictional aquatic features and were not mapped within the buffer because these surveys were conducted at a minimum mapping unit of 1.0 acre, as opposed to 0.01 of an acre for riparian vegetation communities within the Disturbance Area. This approach is consistent with the EDAW Jurisdictional Delineation methodology and is pursuant to Appendix B, Section (g), Subsection (13), Paragraph (B), Clause (iii) of the CEC Siting Regulations, which does not require detailed mapping of aquatic features beyond 250 feet of the disturbance limits (CEC 2007).

[b] All values were rounded to the nearest hundredth-acre after summation.

Table 2
Potential Jurisdictional Waters of the United States and Waters of the State of California Occurring within Reconfigured Alternative 2

Type of Jurisdictional Waters	Type of Habitat (Holland 1986)	Type of Habitat (Cowardin et al. 1979)	Aquatic Resource (acres)[a]			
			Within Disturbance Area	Within 250-feet of the Disturbance Area		Total Survey Area
				Hydrologically Connected Upstream	Hydrologically Connected Downstream	
Jurisdictional Waters of the United States						
None	N/A	N/A	-	-	-	-
		Total USACE Waters =	-	-	-	-
		Subtotal Jurisdictional Waters of the United States	-	-	-	-
Jurisdictional Waters of the State						
Xeric Riparian Extent	Desert Dry Wash Woodland (Holland Code 62200)	Palustrine; Forested, Broad-Leaved, Evergreen, Intermittently Flooded/Temporary, Well Drained/Fresh, Alkaline	207.80	1,212.43	-	1,420.23
Ephemeral Channel	Nonvegetated Channel (Holland Code 64200)	Riverine; Unconsolidated Bottom, Sand, Intermittently Flooded, Temporary, Well Drained/Fresh, Alkaline	180.08	30.78	18.50	229.36
		Total CDFG Waters =	*387.88*	*1,243.21*	*18.50*	*1,649.60*
		Subtotal Jurisdictional Waters of the State	***387.88***	***1,243.21***	***18.50***	***1,649.60***
Grand Total Jurisdictional Waters			**387.88**	**1,243.21**	**18.50**	**1,649.60**

[a] Acreage of all jurisdictional waters was determined by using the GIS program ArcGIS. All acreages are rounded to the nearest hundredth after summation.

Table 3
Potential Jurisdictional Waters of the United States and Waters of the State of California Occurring within Reconfigured Alternative 3

Type of Jurisdictional Waters	Type of Habitat (Holland 1986)	Type of Habitat (Cowardin et al. 1979)	Aquatic Resource (acres)[a]			
			Within Disturbance Area	Within 250-feet of the Disturbance Area		Total Survey Area
				Hydrologically Connected Upstream	Hydrologically Connected Downstream	
Jurisdictional Waters of the United States						
None	N/A	N/A	-	-	-	-
		Total USACE Waters =	-	-	-	-
		Subtotal Jurisdictional Waters of the United States	-	-	-	-
Jurisdictional Waters of the State						
Xeric Riparian Extent	Desert Dry Wash Woodland (Holland Code 62200)	Palustrine; Forested, Broad-Leaved, Evergreen, Intermittently Flooded/Temporary, Well Drained/Fresh, Alkaline	197.60	189.92	-	387.52
Ephemeral Channel	Nonvegetated Channel (Holland Code 64200)	Riverine; Unconsolidated Bottom, Sand, Intermittently Flooded, Temporary, Well Drained/Fresh, Alkaline	167.88	43.69	17.64	229.21
		Total CDFG Waters =	*365.48*	*233.61*	*17.64*	*616.74*
		Subtotal Jurisdictional Waters of the State	***365.48***	***233.61***	***17.64***	***616.74***
Grand Total Jurisdictional Waters			**365.48**	**233.61**	**17.64**	**616.74**

[a] Acreage of all jurisdictional waters was determined by using the GIS program ArcGIS. All acreages are rounded to the nearest hundredth after summation.

Table 4
Occurrence Detail for Special Status Plant Species Documented for Reconfigured Alternative 2

Species Common Name	Proposed Project BRSA Number of GPS Points (Plant Count)		
	Disturbance Area	**Buffer Area**	**Total**
CNPS List 1B and CNPS List 2 Plant Species			
Harwood's milkvetch	4 (6)	36 (140)	**40** **(146)**
Harwood's woollystar	-	13 (69)	**13** **(169)**
CNPS List 3, CNPS List 4, and Taxonomically Unresolved Plant Species			
ribbed cryptantha[a]	5 (4.42×10^5) 49.6 ac	134 (2.12×10^7) 2,381.83 ac	**139** **(2.16×10^7)** **2,431.43 ac**
California ditaxis	-	1 (2)	1 (2)
Additional Plant Species for Consideration at the Request of BLM (La Pre 2009)			
California barrel cactus	-	1 (5)	1 (5)
cottontop cactus	-	1 (1)	1 (1)

[a] Ribbed cryptantha is also expressed in terms of area (acres) due to the high abundance of this species in the substation area. Plant counts are estimates, based on subsampling data from within the ribbed cyrpantha population (calculated density of 2.2 plants per square meter, or 8,903 plants per acre).

Table 5
Occurrence Detail for Special Status Plant Species Documented for Reconfigured Alternative 3

Species Common Name	Proposed Project BRSA Number of GPS Points (Plant Count)		
	Disturbance Area	**Buffer Area**	**Total**
CNPS List 1B and CNPS List 2 Plant Species			
Harwood's milkvetch	5 (7)	35 (139)	**40** **(146)**
Harwood's woollystar	-	10 (49)	**10** **(49)**
CNPS List 3, CNPS List 4, and Taxonomically Unresolved Plant Species			
ribbed cryptantha[a]	5 (4.67×10^5) 52.46 ac	132 (2.16×10^7) 2,420.80 ac	**137** (2.20×10^7) 2,473.26 ac
California ditaxis	-	1 (2)	**1** **(2)**
Additional Plant Species for Consideration at the Request of BLM (La Pre 2009)			
California barrel cactus	-	1 (5)	1 (5)
cottontop cactus	-	1 (1)	1 (1)

[a] Ribbed cryptantha is also expressed in terms of area (acres) due to the high abundance of this species in the substation area. Plant counts are estimates, based on subsampling data from within the ribbed cyrpantha population (calculated density of 2.2 plants per square meter, or 8,903 plants per acre).

Table 6
Desert Tortoise Observations within BRSAs for Reconfigured Alternative 2 and Reconfigured Alternative 3

Sign	Class	Description	Number of Observations					
			Reconfigured Alternative 2			Reconfigured Alternative 3		
			Disturbance Area	Buffer	BRSA	Disturbance Area	Buffer	BRSA
Tortoises		adult		5	5		6	6
Tortoise Burrows	1	active (recent tortoise sign)		3	3		3	3
	2	definitely tortoise, good condition, no recent sign						
	3	definitely tortoise, deteriorated	1	1	2	1	1	2
	4	possibly tortoise, deteriorated	9	3	12	9	3	12
	5	possibly tortoise, good condition	5	3	8	5	3	8
	Total		15	10	25	15	10	25
Tortoise Pallets	1	active (recent tortoise sign)		1	1		1	1
	2	definitely tortoise, good condition, no recent sign		2	2		2	2
	3	definitely tortoise, deteriorated						
	4	possibly tortoise, deteriorated	6	6	12	6	6	12
	5	possibly tortoise, good condition	2	4	6	3	3	6
	Total		8	13	21	9	12	21
Tortoise Scat	1	wet or recently dried, obvious odor	1	1	2	1	1	2
	2	dried with glaze, some odor, dark brown	1	5	6	1	7	8
	3	dried, no glaze or odor, light brown, tightly packed	1		1	1		1
	4	dried, light brown to pale yellow, loose material						
	5	bleached or consisting only of plant fiber						
	Total		3	6	9	3	8	11

Sign	Class	Description	Number of Observations					
			Reconfigured Alternative 2			Reconfigured Alternative 3		
			Disturbance Area	Buffer	BRSA	Disturbance Area	Buffer	BRSA
Tortoise Shell Remains	2	carcass, normal color, scutes adhere to bone						
	3	carcass, scutes peeling off bone						
	4	carcass, shell bone falling apart, growth rings on scutes peeling		1	1		1	1
	5	bone fragments, not mineralized	18	39	57	23	31	54
		bone fragments, mineralized	5	11	16	6	10	16
	Total		23	51	74	29	42	71
Tortoise Fossilized Bones			1		1	1		1
Sets of Tortoise Tracks				2	2		2	2

Table 7
Desert Tortoise Suitable and Critical Habitat within Reconfigured Alternative 2 and Reconfigured Alternative 3 Disturbance Areas

Desert Tortoise Habitat	**Reconfigured Alternative 2 Disturbance Area**	**Reconfigured Alternative 3 Disturbance Area**
Moderate Quality Habitat	39.80	39.80
Low Quality Habitat	4,323.70	4,291.80
Critical Habitat – Moderate Quality	11.47	11.47
Critical Habitat – Low Quality	216.92	216.92

Table 8
Summary of Non-listed Special Status Species Observations within BRSAs for Reconfigured Alternative 2 and Reconfigured Alternative 3

Species	Reconfigured Alternative 2			Reconfigured Alternative 3		
	Disturbance Area	Buffer	BRSA	Disturbance Area	Buffer	BRSA
Birds						
Western Burrowing Owl with Active Burrow	4	-	4	4	-	4
Burrow with Western Burrowing Owl Sign	8	1	9	7	2	9
Ferruginous Hawk	-	1	1	-	1	1
Le Conte's Thrasher	2	1	3	2	1	3
Loggerhead Shrike	11	5	16	11	5	16
Loggerhead shrike nest	1	-	1	1	-	1
Northern Harrier	3	5	8	3	5	8
Purple Martin	1	-	1	1	-	1
Swainson's Hawk	-	4	4	-	4	4
Vaux's Swift	5	-	5	5	-	5
Mammals						
American Badger Den	5	3	8	6	2	8
American Badger Predation Burrow	17	19	36	19	17	36
Kit Fox Burrow	44	14	58	48	10	58
Kit Fox Burrow Complex	38	11	49	41	8	49
Reptiles						
Mojave fringe-toed lizard - Observations	86	417	503	71	433	504
Mojave fringe-toed lizard – Suitable Habitat (acres)	1,503.40	4,403.29	5,906.69	1,542.04	4,398.03	5,940.07

ATTACHMENT 1

FIGURES


Project Location
Independence
Amargosa Valley
George
Las Vegas
Henderson
Lake Mead
Lake Mead NRA
Searchlight
Kingman
Ridgecrest
Cima
Mojave NPRES
Barstow
Lancaster
Palmdale
Hesperia
Lake Havasu City
Twentynine Palms
Parker
Midland
Blythe
Coachella
Salton Sea
Los Angeles
San Bernardino
Riverside
Anaheim
Santa Ana
Long Beach
Huntington Beach
Oceanside
Carlsbad
Vista
Escondido
Encinitas
San Diego
El Centro
Yuma
Mexicali
Tecate
Tijuana
San Luis Rio Colorado
Sequoia NP
Death Valley NP
Joshua Tree NP
Kings Canyon NP
Sequoia NF
Angeles NF
San Bernardino NF
Inyo
California
Nevada
Arizona
Map Location
OR
ID
NV
UT
CA
AZ
1 inch = 40 miles
0
40
80
Miles
N
W
E
S
Palen Solar Power Project
Biological Resources
Data Package
Figure 1
Regional Map
Source: ESRI; AECOM 2010
AECOM
Date: July 2010
Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig1_PSPP_RegionalLocation.mxd, 07/01/10, NdemoM

Map Location

Legend

- Reconfigured Alternative 2 Disturbance Area
- Reconfigured Alternative 2 BRSA
- First Solar Study Area

Source: NAIP 2009; AECOM 2010

N
W E
S

1 in = 3,500 feet

0 3,500 7,000 Feet

Palen Solar Power Project
Biological Resources Data Package

Figure 2
Reconfigured Alternative 2 and Biological Resources Survey Area

AECOM

Date: July 2010

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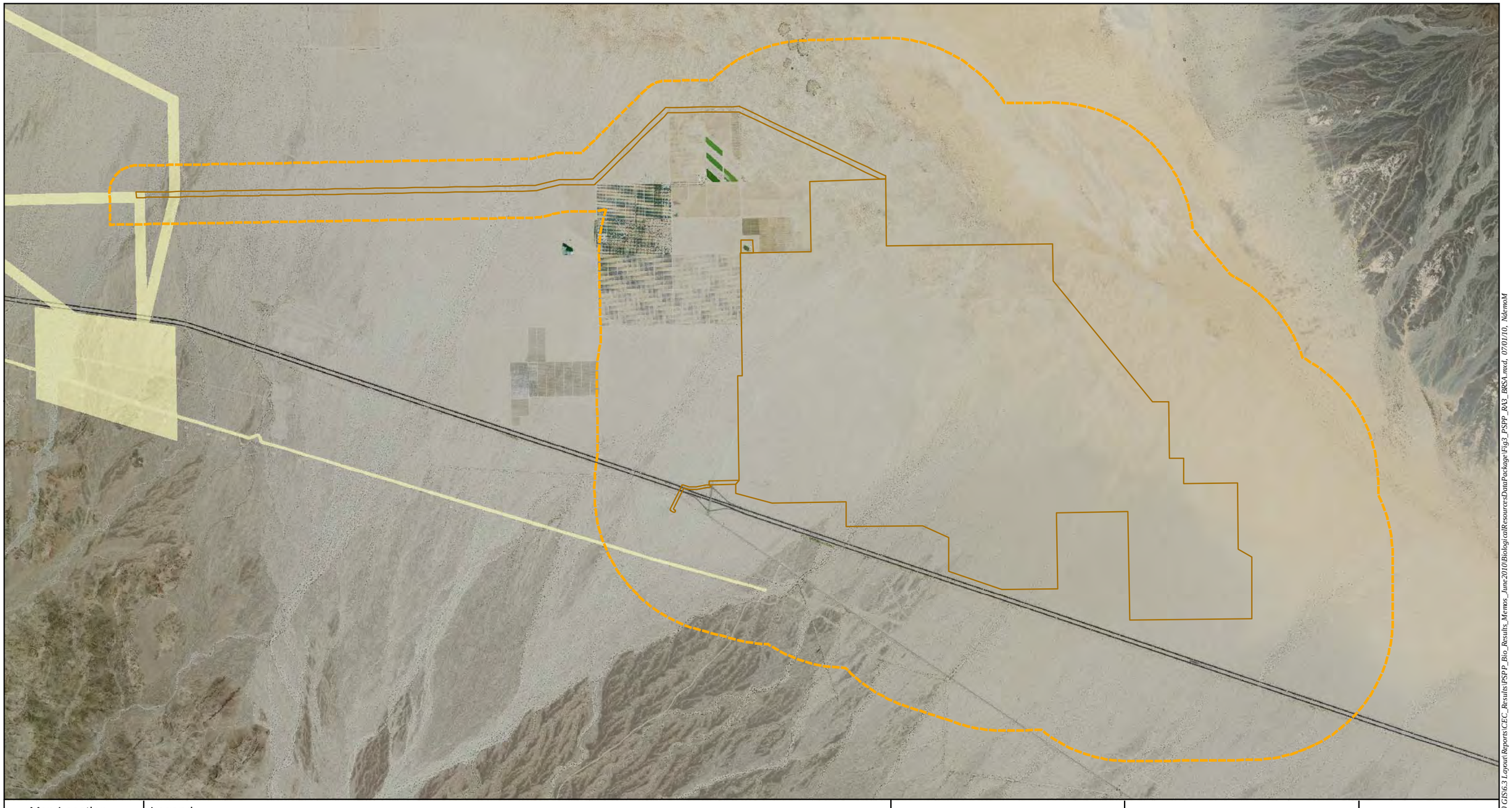

Map Location

Legend

- Reconfigured Alternative 3 Disturbance Area
- Reconfigured Alternative 3 BRSA
- First Solar Study Area

Source: USGS; NAIP 2009; AECOM 2010

N
W E
S

1 in = 3,500 feet

0 3,500 7,000 Feet

Palen Solar Power Project
Biological Resources Data Package

Figure 3
Reconfigured Alternative 3 and Biological Resources Survey Area

AECOM

Date: July 2010

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Map Location

Legend

- Reconfigured Alternative 2 Disturbance Area
- Reconfigured Alternative 2 BRSA
- First Solar Study Area

Source: NAIP 2009; AECOM 2010

Reconfigured Alternative 2

Facility Layout

- Disturbance Area
- Channels
- Proposed Overhead Electric
- Laydown
- Roads
- Ditch
- Solar Loops
- Power Block
- Gas
- Header Pipes
- Spare Loops
- Transmission Line

N
W E
S

1 in = 3,500 feet

0 3,500 7,000 Feet

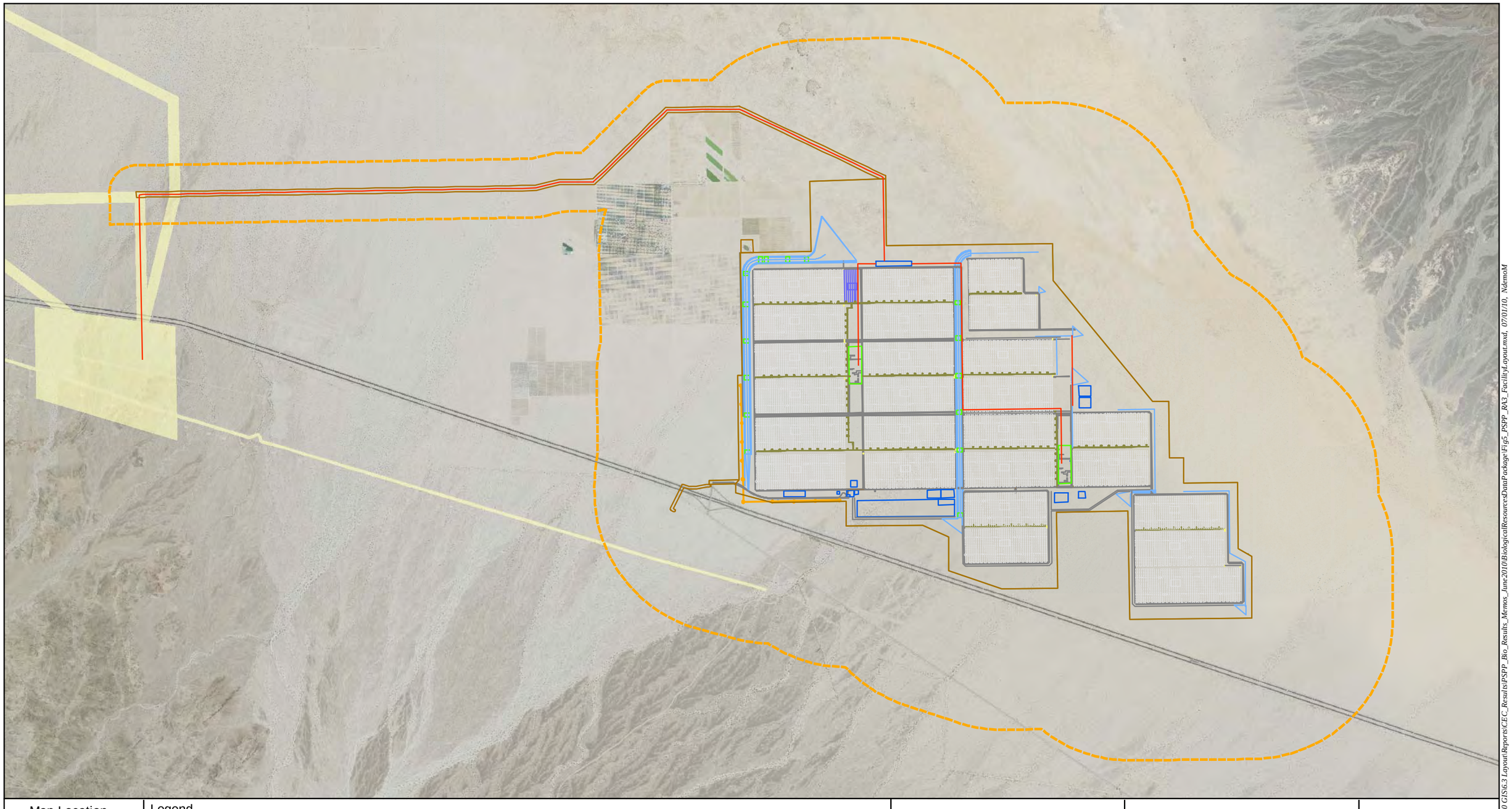
Palen Solar Power Project
Biological Resources Data Package

Figure 4
Reconfigured Alternative 2
Facility Layout

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig4_PSPP_RA2_FacilityLayout.mxd, 07/01/10, NdemoM



Map Location

Legend

- Reconfigured Alternative 3 Disturbance Area
- Reconfigured Alternative 3 BRSA
- First Solar Study Area

Reconfigured Alternative 3 Facility Layout

- Disturbance Area
- Channels
- Proposed Overhead Electric
- Laydown
- Roads
- Ditch
- Solar Loops
- Power Block
- Gas
- Header Pipes
- Spare Loops
- Transmission Line

Source: USGS; NAIP 2009; AECOM 2010

N
W E
S

1 in = 3,500 feet

0 3,500 7,000 Feet

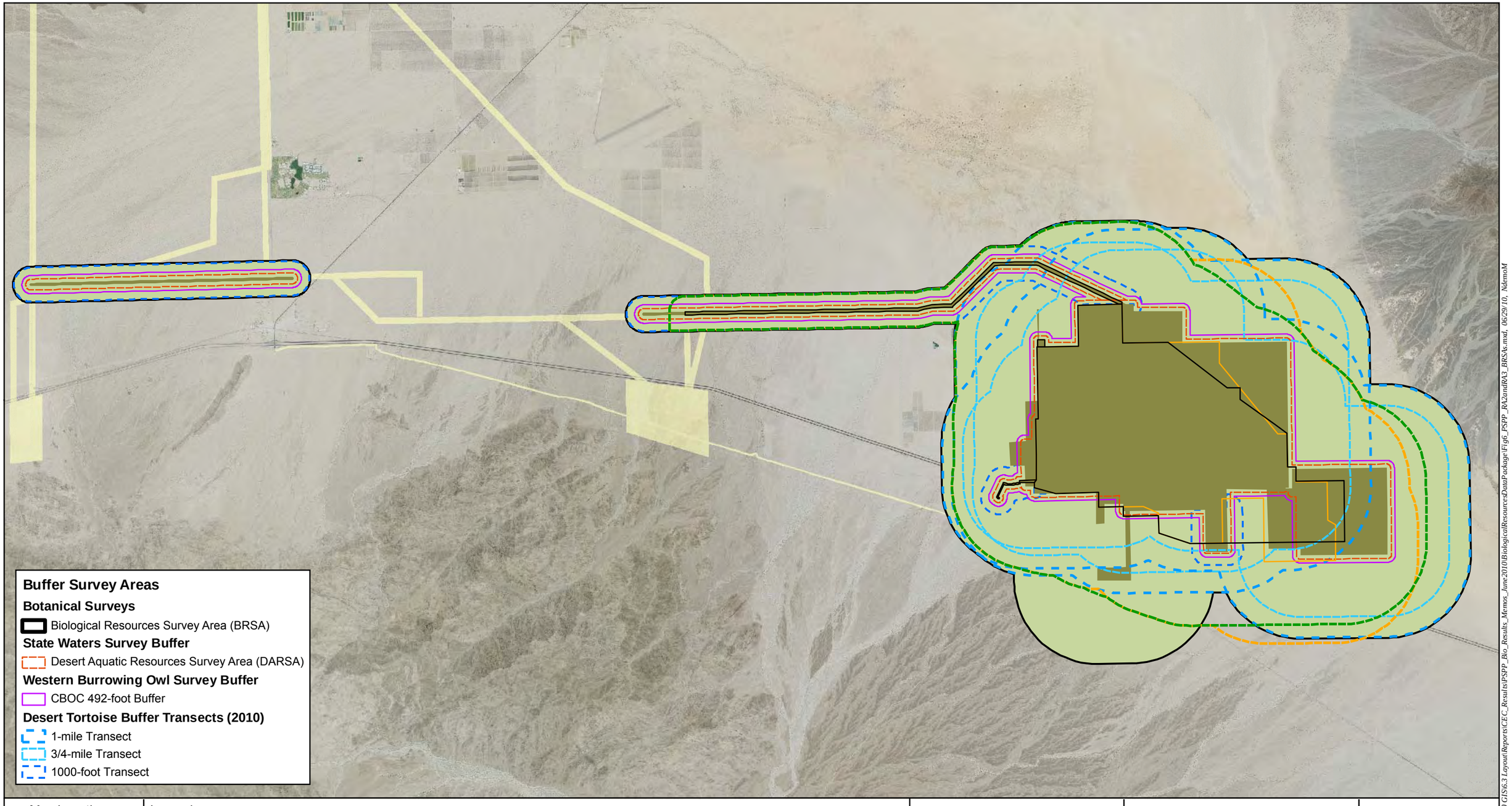
Palen Solar Power Project
Biological Resources Data Package

Figure 5
Reconfigured Alternative 3
Facility Layout

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol MI Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig5_PSPP_RA3_FacilityLayout.mxd, 07/01/10, NdemoM



Map Location

Legend

- Focused Survey Areas
- Focused Survey BRSA
- Reconfigured Alternative 2 Disturbance Area
- Reconfigured Alternative 2 BRSA
- Reconfigured Alternative 3 Disturbance Area
- Reconfigured Alternative 3 BRSA
- First Solar Study Area

Source: NAIP 2009; AECOM 2010

N W E S

1 in = 6,000 feet

0 6,000 12,000 Feet

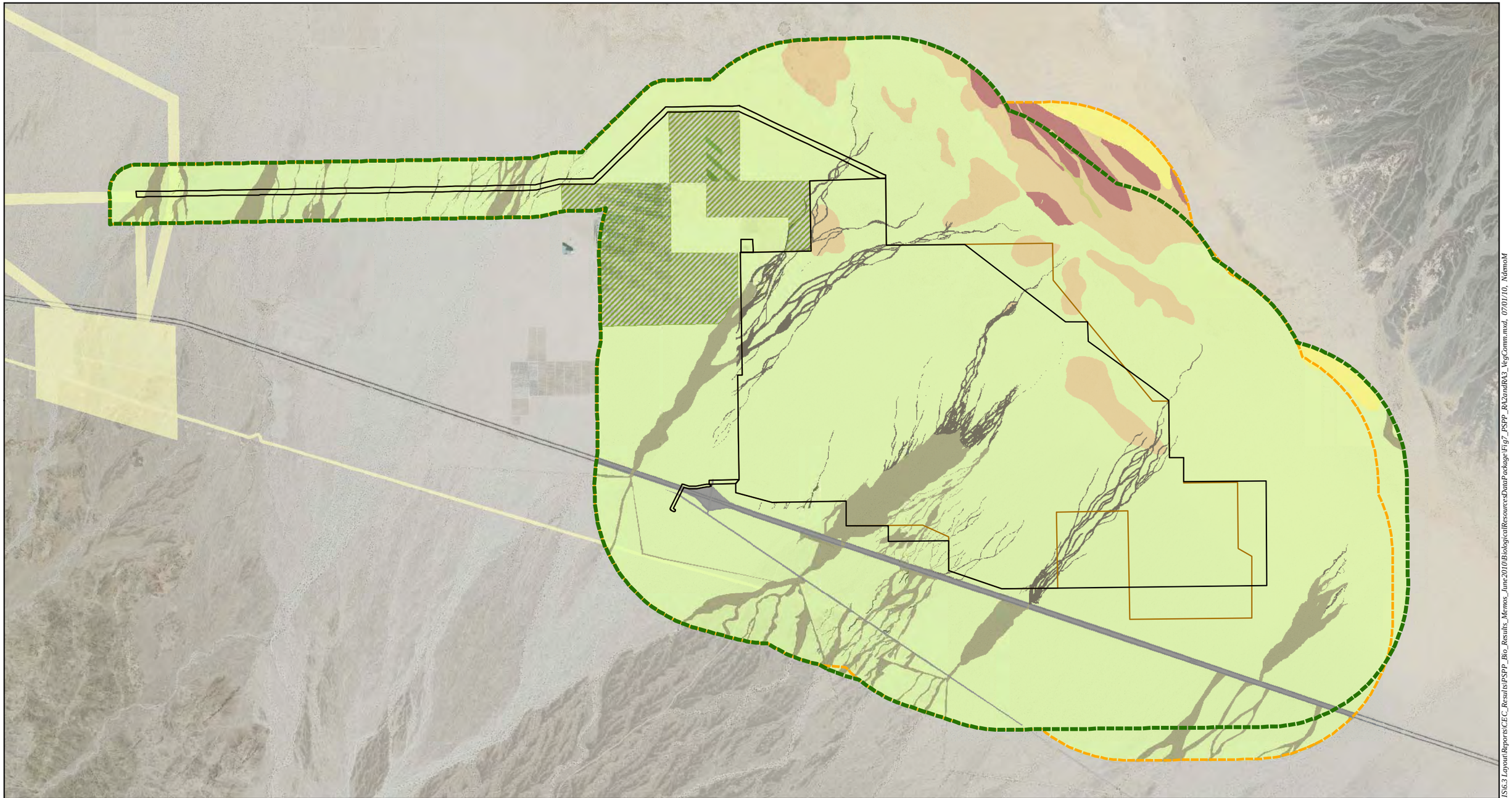
Palen Solar Power Project
Biological Resources Data Package

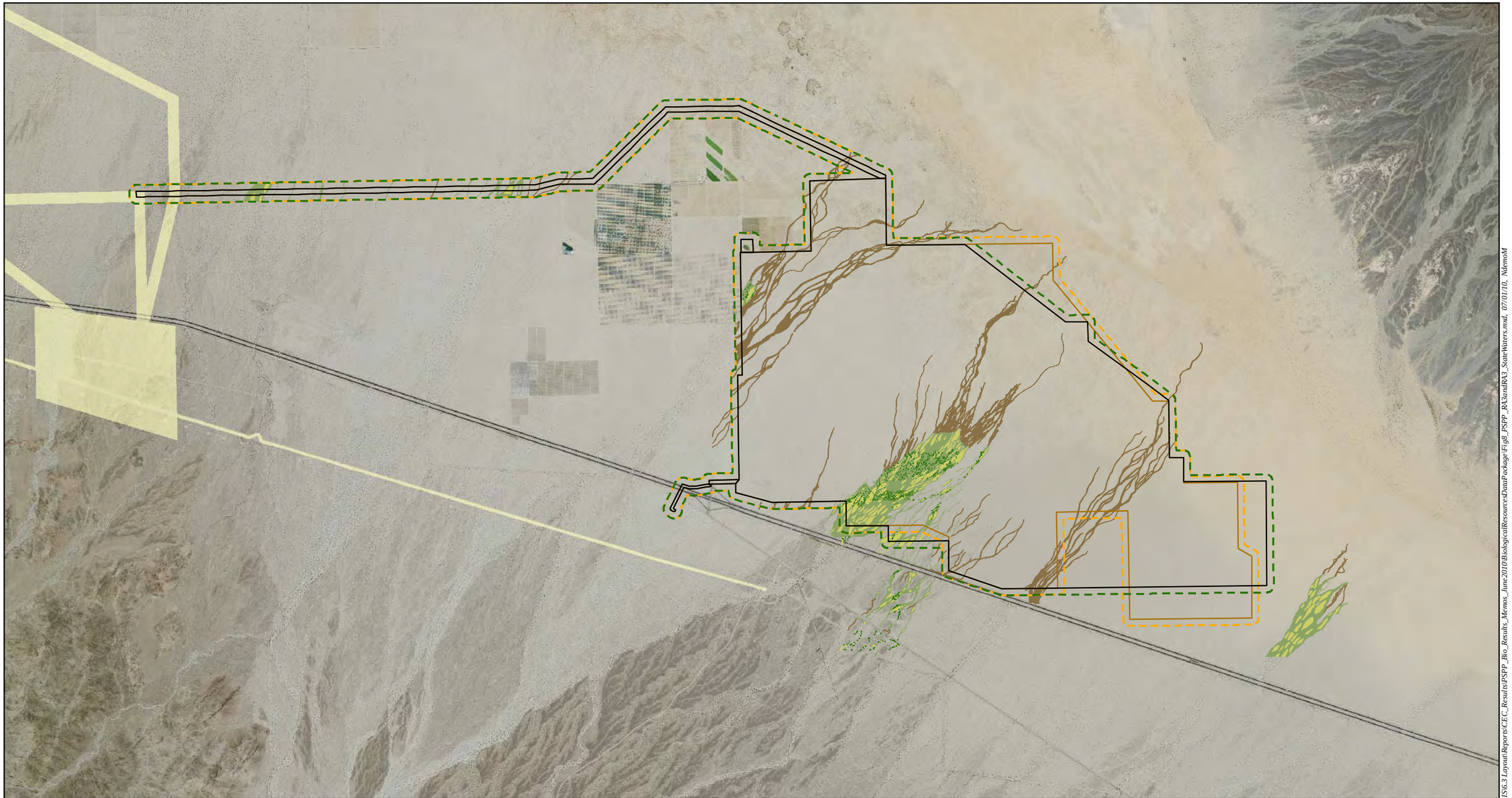
Figure 6
Reconfigured Alternative 2 and 3
Focused Survey Areas and
Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig6_PSPP_RA2andRA3_BRSAs.mxd, 06/29/10, NdemoM


Map Location
OR
ID
NV
UT
CA
AZ
Legend
Reconfigured Alternative 2 Disturbance Area
Reconfigured Alternative 2 BRSA
Reconfigured Alternative 3 Disturbance Area
Reconfigured Alternative 3 BRSA
First Solar Study Area
Vegetation Communities
Riparian
Desert Dry Wash Woodland
Unvegetated Ephemeral Dry Wash
Upland
Sonoran Creosote Bush Scrub
Active Desert Dunes
Stabilized and Partially Stabilized Desert Dunes
Desert Sink Scrub
Dry Lake Bed
Other
Agriculture (Active and Fallow)
Developed
Source: USGS; NAIP 2009; AECOM 2010
N
W
E
S
1 in = 3,500 feet
0
3,500
7,000
Feet
Palen Solar Power Project
Biological Resources Data Package
Figure 7
Vegetation Communities Within
Reconfigured Alternative 2 and 3
Biological Resources Survey Area
AECOM
Date: July 2010
Path: P:\2009\09080881 Sol Mil Palen\6.0 GIS\6.3 Layout Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig7_PSPP_RA2andRA3_VegComm.mxd, 07/01/10, NdemoM



Map Location

Legend

- Reconfigured Alternative 2 Disturbance Area
- Reconfigured Alternative 2 DARSA
- Reconfigured Alternative 3 Disturbance Area
- Reconfigured Alternative 3 DARSA
- First Solar Study Area

Jurisdictional Waters of the State of California

Desert Dry Wash Woodland

- Vegetated Ephemeral Dry Wash
- Riparian Interfluve
- Wash Dependent Vegetation

Other Waters

- Unvegetated Ephemeral Dry Wash

Source: USGS; NAIP 2009; AECOM 2010

N
W
E
S

1 in = 3,500 feet

0 3,500 7,000 Feet

Palen Solar Power Project
Biological Resources Data Package

Figure 8
State Waters Within
Reconfigured Alternative 2 and 3
Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\20090909080081 Sol Mil Palen\6.0 GIS\6.3 Layout Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig8_PSPP_RA3andRA3_StateWaters.mxd, 07/01/10, NdemoM

Rare Plant Observations (2010)

CNPS 1B and 2

- Harwood's milkvetch
- Harwood's woollystar

CNPS List 4

- Utah milkvine
- Ribbed cryptantha
- Four wing saltbush

BLM-requested Cactus Species

- Cottontop cactus
- California barrel cactus

Rare Plant Observations (2009)

CNPS 1B and 2

- Harwood's milkvetch

Map Location

Legend

- Reconfigured Alternative 2 Disturbance Area
- Reconfigured Alternative 2 BRSA
- First Solar Study Area

Source: NAIP 2009; EDAW 2009; AECOM 2010

N
W
E
S

1 in = 3,500 feet

0 3,500 7,000 Feet

Palen Solar Power Project
Biological Resources Data Package

Figure 9
Special Status Plant Species within Reconfigured Alternative 2 and Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig9_PSPP_SpecialStatusPlantSpecies_RA2_BRSA.mxd, 07/01/10, NdemoM

Rare Plant Observations (2010)

CNPS 1B and 2
- Harwood's milkvetch
- Harwood's woollystar

CNPS List 4
- Utah milkvine
- Ribbed cryptantha
- Four wing saltbush

BLM-requested Cactus Species
- Cottontop cactus
- California barrel cactus

Rare Plant Observations (2009)

CNPS 1B and 2
- Harwood's milkvetch

Map Location

Legend
- Reconfigured Alternative 3 Disturbance Area
- Reconfigured Alternative 3 BRSA
- First Solar Study Area

Source: NAIP 2009; AECOM 2010

N W E S

1 in = 3,500 feet

0 3,500 7,000 Feet

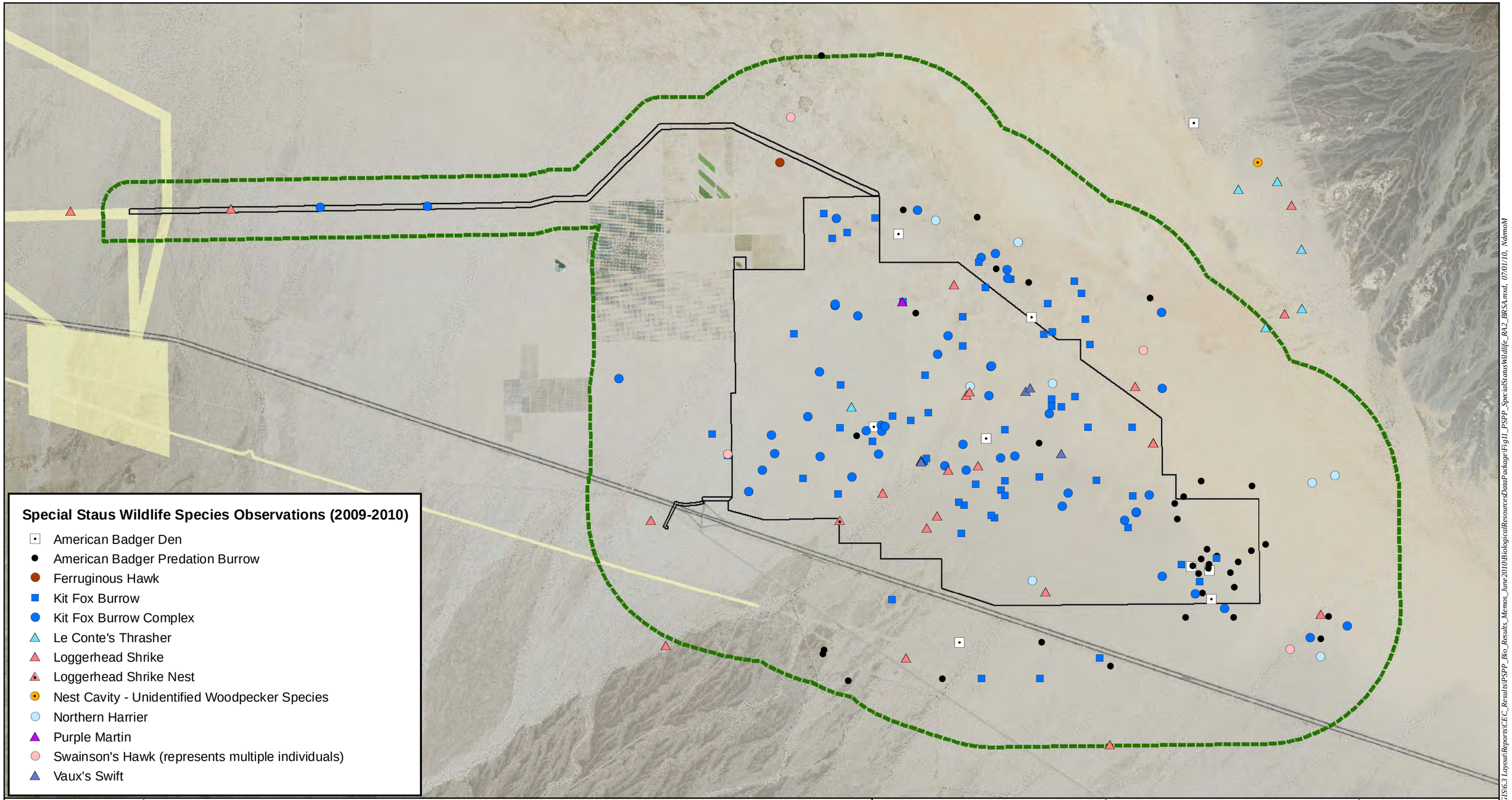
Palen Solar Power Project
Biological Resources Data Package

Figure 10
Special Status Plant Species within Reconfigured Alternative 3 and Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResources\DataPackage\Fig10_PSPP_SpecialStatusPlantSpecies_RA3_BRSA.mxd, 07/01/10, NdemoM



Palen Solar Power Project
Biological Resources Data Package

Figure 11
Special Status Wildlife within Reconfigured Alternative 2 and Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResources\DataPackage\Fig11_PSPP_SpecialStatusWildlife_R12_BRSA.mxd, 07/01/10, NdemoM

Special Staus Wildlife Species Observations (2009-2010)

- American Badger Den
- American Badger Predation Burrow
- Ferruginous Hawk
- Kit Fox Burrow
- Kit Fox Burrow Complex
- Le Conte's Thrasher
- Loggerhead Shrike
- Loggerhead Shrike Nest
- Nest Cavity - Unidentified Woodpecker Species
- Northern Harrier
- Purple Martin
- Swainson's Hawk (represents multiple individuals)
- Vaux's Swift

Map Location

Legend

- Reconfigured Alternative 3 Disturbance Area
- Reconfigured Alternative 3 BRSA
- First Solar Study Area

Source: NAIP 2009; AECOM 2009 - 2010

N
W
E
S

1 inch = 3,500 feet

0 3,500 7,000 Feet

Palen Solar Power Project
Biological Resources Data Package

Figure 12
Special Status Wildlife within Reconfigured Alternative 3 and Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig12_PSPP_SpecialStatusWildlife_BRSA.mxd, 06/29/10, NdemoM

Map Location

Legend

- Reconfigured Alternative 2 Disturbance Area
- Reconfigured Alternative 2 BRSA
- First Solar Study Area

Suitable Habitat Quality

- Low DETO Habitat Quality
- Moderate DETO Habitat Quality
- Desert Tortoise Suitable Habitat
- Desert Tortoise Critical Habitat

Source: NAIP 2009; AECOM 2010

N
W
E
S

1 in = 3,500 feet

0 3,500 7,000 Feet

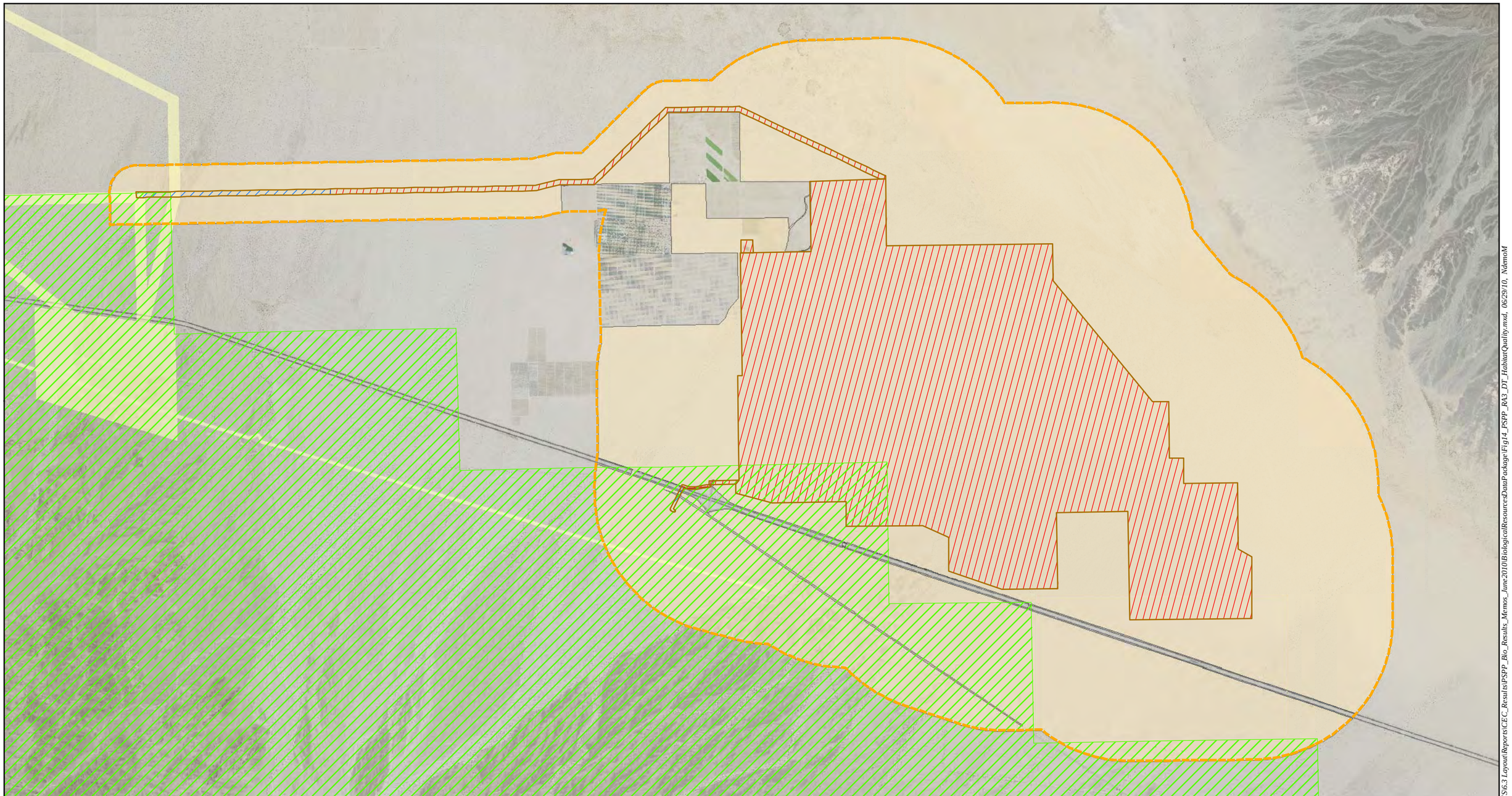
Palen Solar Power Project
Biological Resources Data Package

Figure 13
Desert Tortoise Suitable Habitat Within Reconfigured Alternative 2 Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig13_PSPP_R42_DT_HabitatQuality.mxd, 06/29/10, NdemoM



Palen Solar Power Project
Biological Resources Data Package

Figure 14
Desert Tortoise Suitable Habitat Within Reconfigured Alternative 3 Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol MI Palen\6.0 GIS\6.3 Layout Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig14_PSPP_R43_DT_HabitatQuality.mxd, 06/29/10, NdemoM

Desert Tortoise Observations (2009-2010)

- Adult Tortoise
- Tortoise Burrow (Active) - Class 1
- Tortoise Burrow - Class 2
- Tortoise Burrow - Class 3
- Tortoise Burrow - Class 4
- Tortoise Burrow - Class 5
- Tortoise Pallet (Active) - Class 1
- Tortoise Pallet - Class 2
- Tortoise Pallet - Class 4
- Tortoise Pallet - Class 5
- Tortoise Scat - Class 1
- Tortoise Scat - Class 2
- Tortoise Scat - Class 3
- Tortoise Scat - Class 4
- Tortoise Scat - Class 5
- Tortoise Carcass - Class 3
- Tortoise Carcass - Class 4
- Tortoise Bone Fragment (Class 5) - Not Mineralized
- Tortoise Bone Fragment (Class 5) - Mineralized
- Tortoise Tracks
- Tortoise Fossilized Bones

Map Location

Legend

- Reconfigured Alternative 2 Disturbance Area
- Reconfigured Alternative 2 BRSA
- First Solar Study Area

Desert Tortoise Buffer Transects (2010)

- 1-mile Transect
- 3/4-mile Transect
- 1000-foot Transect

Source: NAIP 2009; USGS; AECOM 2009 - 2010

N
W E
S

1 inch = 3,500 feet

0 3,500 7,000 Feet

Palen Solar Power Project
Biological Resources Data Package

Figure 15
Desert Tortoise Observations within Reconfigured Alternative 2 and Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResources\DataPackage\Fig15_PSPP_DT_Observations_RA2_BRSA_mxd, 06/29/10, NdemoM

Desert Tortoise Observations (2009-2010)

- Adult Tortoise
- Tortoise Burrow (Active) - Class 1
- Tortoise Burrow - Class 2
- Tortoise Burrow - Class 3
- Tortoise Burrow - Class 4
- Tortoise Burrow - Class 5
- Tortoise Pallet (Active) - Class 1
- Tortoise Pallet - Class 2
- Tortoise Pallet - Class 4
- Tortoise Pallet - Class 5
- Tortoise Scat - Class 1
- Tortoise Scat - Class 2
- Tortoise Scat - Class 3
- Tortoise Scat - Class 4
- Tortoise Scat - Class 5
- Tortoise Carcass - Class 3
- Tortoise Carcass - Class 4
- Tortoise Bone Fragment (Class 5) - Not Mineralized
- Tortoise Bone Fragment (Class 5) - Mineralized
- Tortoise Tracks
- Tortoise Fossilized Bones

Map Location

Legend

- Reconfigured Alternative 3 Disturbance Area
- Reconfigured Alternative 3 BRSA
- First Solar Study Area

Desert Tortoise Buffer Transects (2010)

- 1-mile Transect
- 3/4-mile Transect
- 1000-foot Transect

Source: NAIP 2009; USGS; AECOM 2009-2010

N
W E
S

1 inch = 3,500 feet

0 3,500 7,000 Feet

Palen Solar Power Project
Biological Resources Data Package

Figure 16
Desert Tortoise Observations within Reconfigured Alternative 3 Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResources\DataPackage\Fig16_PSPP_DT_Observations_RA3_BRSA.mxd, 06/29/10, NdemoM

WBO Pair 2
(2 burrows)

WBO Pair 1
(2 burrows)

Map Location

Legend

- Reconfigured Alternative 2 BRSA
- Reconfigured Alternative 2 Disturbance Area
- First Solar Study Area

Burrowing Owl Observations (2009-2010)

- Active Burrows
- Burrow with Sign

Western Burrowing Owl Survey Buffer

- CBOC 492-foot Buffer

Source: NAIP 2009; AECOM 2010

N
W E
S

1 inch = 3,500 feet

0 3,500 7,000 Feet

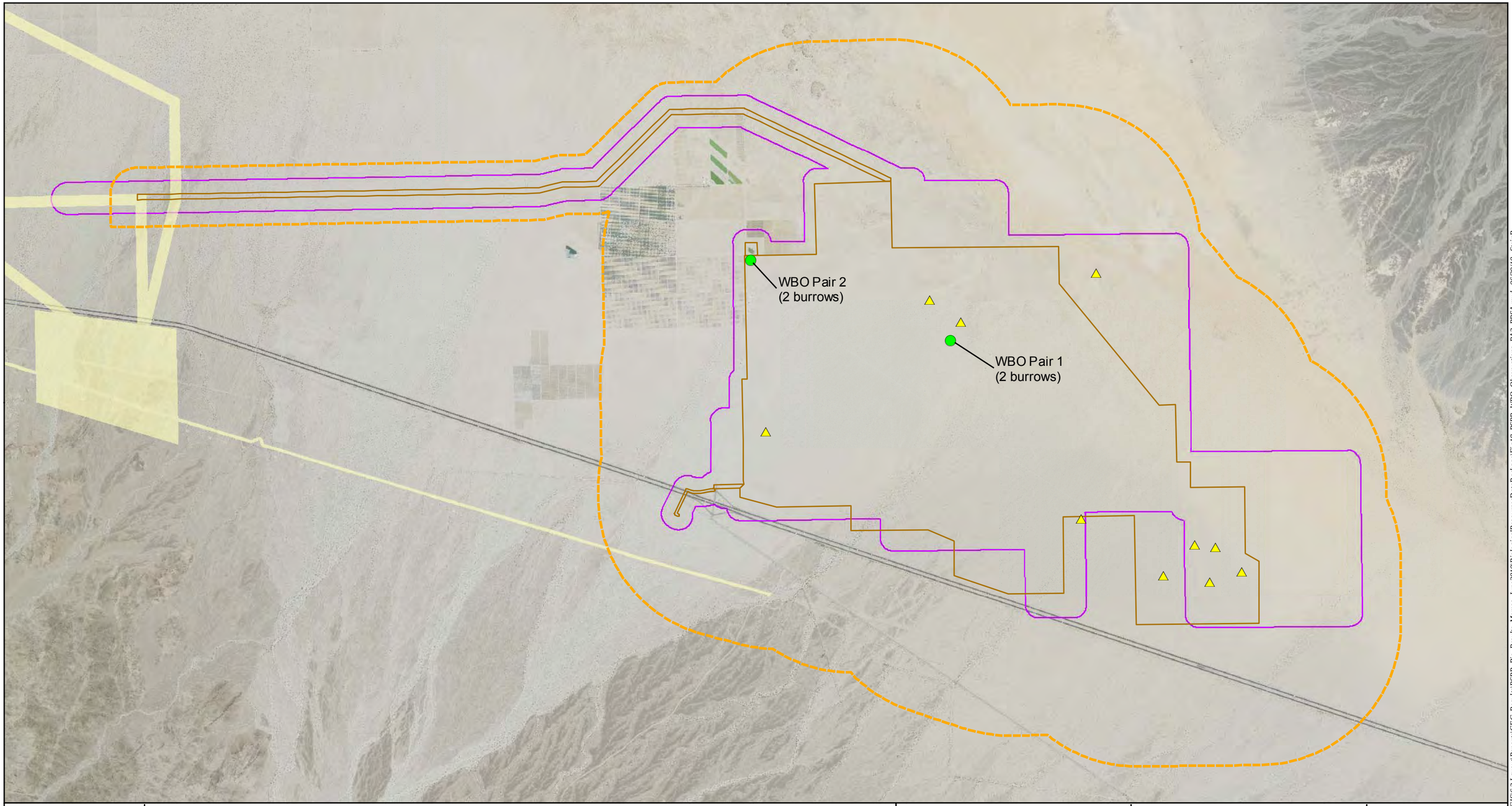
Palen Solar Power Project
Biological Resources Data Package

Figure 17
Burrowing Owl Observations within Reconfigured Alternative 2 and Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol MI Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResources\DataPackage\Fig17_PSPP_WBO_Observations_RA2_BRSA.mxd, 06/29/10, SteinB



Map Location

Legend

- Reconfigured Alternative 3 Disturbance Area
- Reconfigured Alternative 3 BRSA
- First Solar Study Area

Burrowing Owl Observations (2009-2010)

- Active Burrows
- Burrow with Sign

Western Burrowing Owl Survey Buffer

- CBOC 492-foot Buffer

Source: NAIP 2009; AECOM 2010

N
W E
S

1 inch = 3,500 feet

0 3,500 7,000 Feet

Palen Solar Power Project
Biological Resources Data Package

Figure 18
Burrowing Owl Observations within Reconfigured Alternative 3 and Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig18_PSPP_WBO_Observations_BA3_BRSA.mxd, 06/29/10, SteinB

Map Location

Legend

- Reconfigured Alternative 2 Disturbance Area
- Reconfigured Alternative 2 BRSA
- First Solar Study Area

Mojave Fringe-Toed Lizard Observations

- Mojave Fringe-toed Lizard Individual Observations (2009)
- Mojave Fringe-toed Lizard Individual Observations (2010)
- MFTL Suitable Habitat

Source: NAIP 2009; AECOM 2010

N
W E
S

1 in = 3,500 feet

0 3,500 7,000 Feet

Palen Solar Power Project
Biological Resources Data Package

Figure 19
Mojave Fringe-toed Lizard Suitable Habitat and Observations Within Reconfigured Alternative 2 Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResources\DataPackage\Fig19_PSPP_R02_MFTL.mxd 06/29/10 NdemoM

Map Location

Legend

- Reconfigured Alternative 3 Disturbance Area
- Reconfigured Alternative 3 BRSA
- First Solar Study Area
- MFTL Occupied Habitat

Mojave Fringe-Toed Lizard Observations

- Mojave Fringe-toed Lizard Individual Observations (2009)
- Mojave Fringe-toed Lizard Individual Observations (2010)

Source: USGS; NAIP 2009; AECOM 2010

N
W E
S

1 in = 3,500 feet

0 3,500 7,000 Feet

Palen Solar Power Project
Biological Resources Data Package

Figure 20
Mojave Fringe-toed Lizard Suitable Habitat and Observations Within Reconfigured Alternative 3 Biological Resources Survey Area

AECOM

Date: July 2010

Path: P:\20090908081 Sol MI Palen\6.0 GIS\6.3 Layout Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig20_PSPP_R43_MFTL.mxd 06/30/10 NdemoM

Map Location

Legend

- Reconfigured Alternative 2 Disturbance Area
- Reconfigured Alternative 2 BRSA
- Reconfigured Alternative 3 Disturbance Area
- Reconfigured Alternative 3 BRSA
- First Solar Study Area

Desert Wildlife Management Area (NECO)

- Chuckwalla

Wildlife Habitat Management Area (NECO)

- Nelson's Bighorn Sheep
- Multiple Species

Source: NAIP 2005; AECOM 2010

N
W E
S

1 inch = 8,000 feet

0 8,000 16,000 Feet

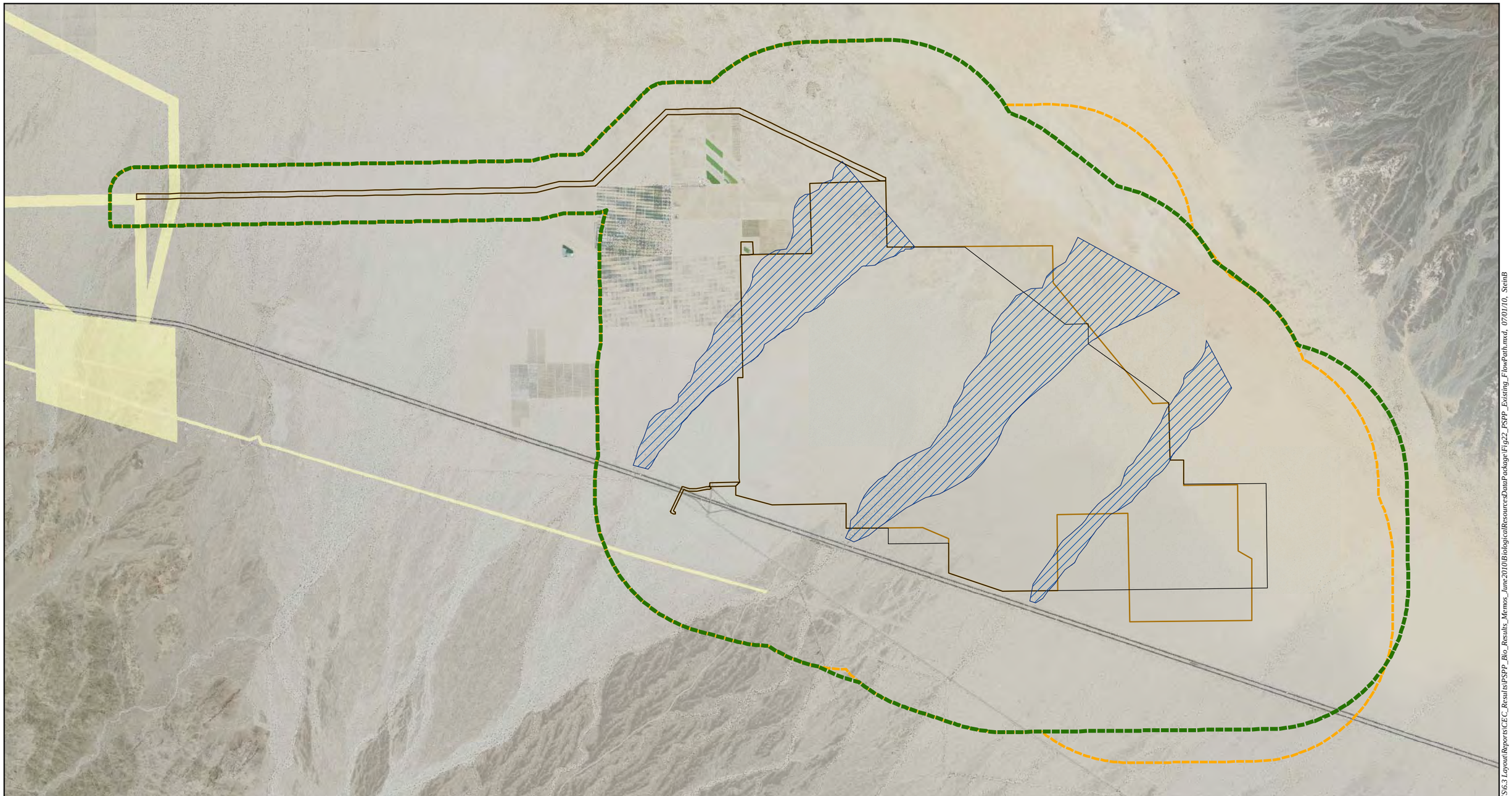
Palen Solar Power Project
Biological Resources Data Package

Figure 21
Reconfigured Alternative 2 and 3 Relative to the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO)

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol MI Palen\6.0 GIS\6.3 Layout Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig21_PSPP_RA2andRA3_NECO.mxd 07/01/10 SteinB



Map Location

Legend

- Reconfigured Alternative 2 Disturbance Area
- Reconfigured Alternative 2 BRSA
- Reconfigured Alternative 3 Disturbance Area
- Reconfigured Alternative 3 BRSA
- First Solar Study Area
- Existing Flow Paths

Source: NAIP 2009; NECO; AECOM 2010

N W E S

1 inch = 3,500 feet

0 3,500 7,000 Feet

Palen Solar Power Project
Biological Resources Data Package

Figure 22
Existing Flow Paths

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResources\DataPackage\Fig22_PSPP_Existing_FlowPath.mxd, 07/01/10, SteinB

CACA 048649
CACA 048649
CACA 048649
CACA 049494
CACA 049492
CACA 048808
CACA 048810
CACA 048880
CACA 048880
CACA 049488
CACA 049702
CACA 049490
CACA 049097
CACA 049397
177
177
177
10
78

Map Location

Legend

- Reconfigured Alternative 2 Disturbance Area
- Reconfigured Alternative 3 Disturbance Area
- Future Solar Projects
- Desert Tortoise Designated Critical Habitat (USFWS)

Source: ESRI 2010; USFWS 2009; AECOM 2010

N
W E
S

1 in = 4 miles

0 4 8 Miles

Palen Solar Power Project
Biological Resources Data Package

Figure 23
Location of Cumulative Projects Relative to Desert Tortoise Critical Habitat

AECOM

Date: July 2010

Path: P:\2009\09080081 Sol Mil Palen\6.0 GIS\6.3 Layout\Reports\CEC_Results\PSPP_Bio_Results_Memos_June2010\BiologicalResourcesDataPackage\Fig23_PSPP_CumulativeProjects_Relative_to_DETO_CH.mxd, 07/01/10, SteinB

STATE OF CALIFORNIA
ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION

In the Matter of: **APPLICATION FOR CERTIFICATION** **for the *PALEN SOLAR POWER PROJECT***	**Docket No. 09-AFC-7** **PROOF OF SERVICE** ***(Revised 5/14/2010)***

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DECLARATION OF SERVICE

I, Carl Lindner, declare that on, July 2, 2010, I served and filed copies of the attached "Palen Solar Power Project (PSPP) Supplementary Information: Reconfigured Alternative 2 and Reconfigured Alternative 3.", dated June, 2010 The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:
[http://www.energy.ca.gov/sitingcases/solar_millennium_palen].
The document has been sent to the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(*Check all that Apply*)

For service to all other parties:

___**X**__ sent electronically to all email addresses on the Proof of Service list;

___ __ by personal delivery or by overnight delivery service or depositing in the United States mail at Camarillo, California with postage or fees thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

For filing with the Energy Commission:

__X_ sending an original paper copy and one electronic copy, mailed respectively, to the address below (preferred method);

OR

_____ depositing in the mail an original and 12 paper copies, along with 13 CDs, as follows:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 09-AFC-7
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.